

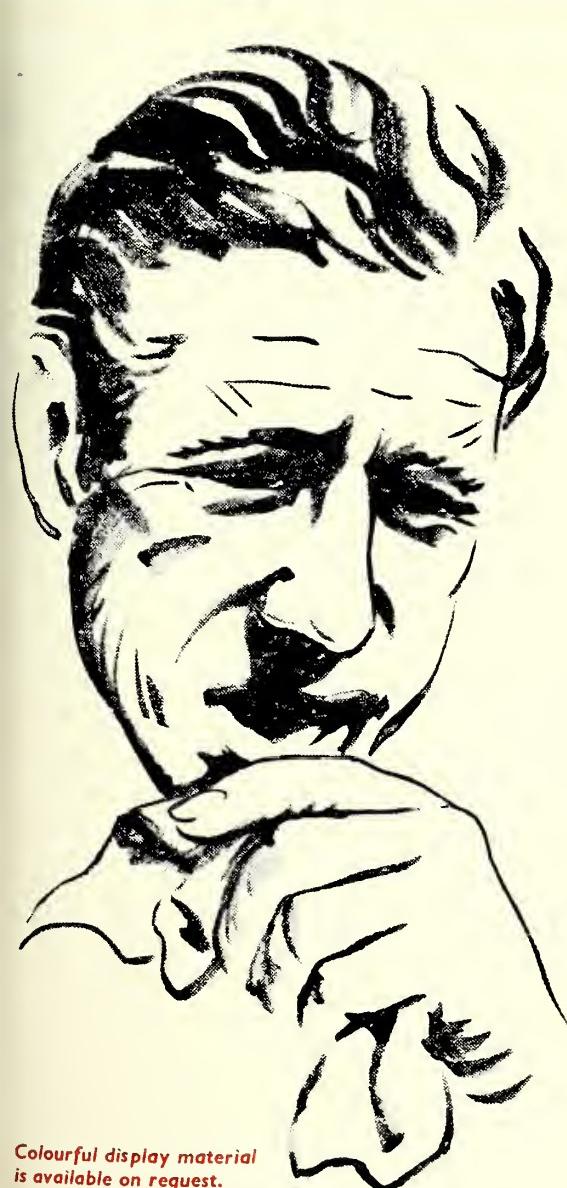
The



CHEMIST AND DRUGGIST

For Retailer, Wholesaler and Manufacturer

FEBRUARY 14 1953



* **for your customers**
....speedy relief from
troublesome coughs

* **for yourself**
....assured repeat sales

'ZEPHROL'
trademark EPHEDRINE COUGH SYRUP brand

The efficacy, rapidity of action and palatability of
'Zephrol' ensure that your customers will call again.
Supplied in 2½ fl. oz. bottles. List price 2s. 6d. plus
purchase tax.

Bonus terms of 13 to the dozen from wholesalers.

AN M&B BRAND MEDICAL PRODUCT



manufactured by
MAY & BAKER LTD

MA878

Colourful display material
is available on request.

A FINE TRADITION —

*maintained and upheld in
many parts of the world by
the skill of Scottish Industry.*



*For Fine Chemicals and
Pharmaceutical Preparations
including*

T. & H. SMITH LTD.

BLANDFIELD CHEMICAL WORKS

EDINBURGH · SCOTLAND

CODEINE
MORPHINE
SANTONIN
EPHEDRINE
ETHYLMORPHINE



Question after question! How wearying this endless barrage can be for mother, sometimes making her too tired to cope with even the most routine task. But how swiftly GLUCODIN restores the ravages made on her energy.

Tell mothers (and the rest of the family!) about GLUCODIN: that it's over 98% pure medicinal glucose, fortified with calcium and vitamin D; that it's easily digested; that it makes the ideal sweetener for hot and cold drinks and for fruit dishes and breakfast cereals. Small wonder GLUCODIN is such genuine value...and such a fast-moving, rewarding line, too.

GLUCODIN

Trade Mark
In 1-lb. cartons, 3/- (face price);
27/- net per dozen

PARCEL No. 11 (2 doz. x 1-lb. cartons) £2.8.0. net



A new combination

C O D I S

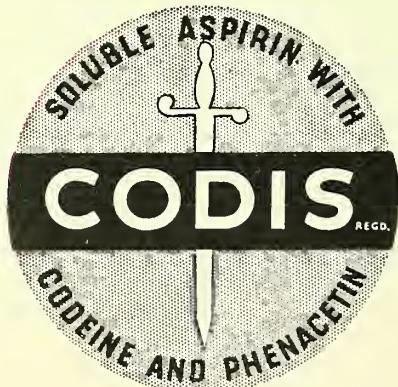
REGD.

*soluble aspirin with
codeine phosphate and phenacetin*

Codis presents a familiar grouping of analgesic drugs; aspirin, phenacetin, codeine phosphate; with an important advantage. The "aspirin" in Codis is rendered soluble, as in 'Solprin'

Placed, uncrushed, in water, a Codis tablet disperses in a matter of seconds to form a solution of calcium aspirin and codeine phosphate with finely suspended phenacetin. The chance of irritation of the gastric mucosa by undissolved particles of aspirin is thus minimised.

Codis is recommended for all those conditions for which Tab. Codein. Co. B.P. would be prescribed. It has the added advantages of greater ease of administration and far less likelihood of aspirin intolerance, while the rapid absorption of the soluble aspirin promotes prompt relief.



COMPOSITION

Each Codis tablet contains: Acid. Acetylsalicyl. B.P. 4 grs., Phenacet. B.P. 4 grs., Codein Phosph. B.P. 0.125 grs., Calc. Carb. B.P. 1.2 grs., Acid. Cit. B.P. (Exsic.) 0.4 grs., Excip. ad. 11.45 grs.

Codis is not advertised to the public

DISPENSING PACK (Purchase Tax free) 300 tablets in distinctive gold foils of 6 tablets each 16/6 per box.

PUBLIC SIZES Packs of 20 tablets 2/9 each inc. P.T.



Best Ever!

A gratifying and popular verdict
on the current advertising !

And now new guns are brought to
bear in the form of weekly pro-
grammes from

Radio Luxembourg

continuing right through to the end
of April.

Book your window displays and
show material and

Order Now

Bonus in kind can only be allowed when one or more of the standard parcels E, F, G, J, L and P are ordered. Apart from the bonus parcels, other quantities of Crookes Halibut Oil and Capsules and Halibut Oil Emulsion can always be supplied at normal discount.
Orders over £2 nett, carriage paid.

Standard Bonus Parcels		
PARCEL	39×25 Capsules @ 2/6 Retail	
E	Total retail value	£4 17 6
	Cost of parcel	£3 0 9
PARCEL	26×5 m.l. Drops @ 2/- Retail	
F	Total retail value	£2 12 0
	Cost of parcel	£1 12 5
PARCEL	13×15 m.l. Drops @ 5/- Retail	
G	Total retail value	£3 5 0
	Cost of parcel	£2 0 6
PARCEL	13×30 m.l. Drops @ 9/- Retail	
J	Total retail value	£5 17 0
	Cost of parcel	£3 12 11
PARCEL	13×100 Capsules @ 8/6 Retail	
L	Total retail value	£5 10 6
	Cost of parcel	£3 8 10
PARCEL	13×15 m.l. Infants' Emulsion @ 3/6 Retail	
P	Total retail value	£2 5 6
	Cost of parcel	£1 8 4



P.A.T.A.

CROOKES HALIBUT OIL

ALF. HARRISON & SONS LTD.
MEDICAL, CARTON & COLOUR PRINTERS
BURLEY ROAD, LEEDS, 4
Phone: LEEDS 52668/9 Grams: "IDEAS" LEEDS, 4

MEANS BUSINESS

The '52-'53 Cephos advertising campaign covering press and films will create an even greater demand for this famous remedy. To bring the full impact of this advertising into your shop, apply direct for Cephos Sales - Aid Material.

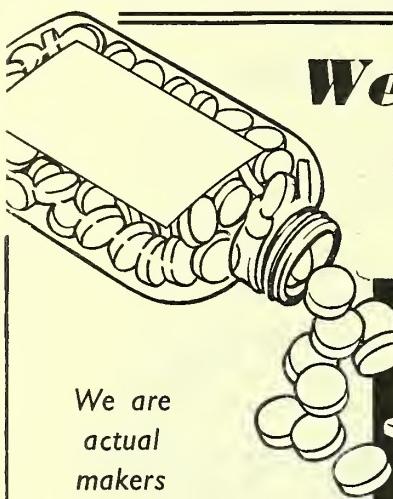
Help us to help you by carrying ample stocks.

Cephos
SELLS
readily
and
steadily

CEPHOS LTD • BLACKBURN • LANC

© T9

We specialise in quality ASPIRIN tablets



We are
actual
makers

**PACKED OR IN BULK
BEST PRICES
FINEST QUALITY
PROMPT DELIVERY**

also SACCHARIN TABLETS—still
the lowest price for large or
small quantities



The

WALLIS LABORATORY LIMITED

58 KING GEORGE'S AVENUE, WATFORD, HERTS.

Telephone: WATFORD 2812

INDEX TO ADVERTISERS

Alka-Seltzer	19	Dabitoff Co. (London), Ltd.	53
Allen, Stafford, & Sons, Ltd.	21	Daniel, Richard, & Son, Ltd.	15
Armour Laboratories, The	26	Dunn Brothers Succrs., Ltd.	54
Armstrong Cork Co., Ltd.	30	Dyanese, Ltd.	42
Ashwood Timber Industries, Ltd.	26		
Beatson, Clark & Co., Ltd.	34	Edge, Wm., & Sons, Ltd.	36
Bell, John, Hills & Lucas, Ltd.	25	Edme, Ltd.	59
Benger Laboratories, Ltd.	57	"Elasto"	26
Bengué & Co., Ltd.	22		
Boots Pure Drug Co., Ltd.	41	Ferris & Co., Ltd.	26
Borax Consolidated, Ltd.	60	Foyles Libraries, Ltd.	44
Bovril, Ltd.	45	Franco-British Glass Co., Ltd.	42
British Cod Liver Oil (Hull & Grimsby), Ltd.	16	Franks, A., & Bartlett Co., Ltd.	22
British Drug Houses, Ltd., The	15	Freudentheil, Smith & Co.	Leader Page
British Patent Perforated Paper Co., Ltd.	47		
British Permanent Starch Co., Ltd.	13	Gambles, J. C., & Co., Ltd.	55
Britton, Malcolm & Co., Ltd.	40	Gardner, W., & Sons (Glos.), Ltd.	37
Brook, Parker & Co., Ltd.	54	Gerhardt, C. F., Ltd.	41
Burroughs Wellcome & Co.	29	Glaxo Laboratories, Ltd.	1
Business Brokers, Ltd.	Col. Supp.	Gledhill, G. H., & Sons, Ltd.	36
Carnegie Chemicals (Welwyn), Ltd.	5	Golden, Ltd. (Tress)	28
Cephos Ltd.	4	Gosheron, John, & Co., Ltd.	43
Chemist & Druggist (The Chemist's Dictionary of Synonyms)	44	Goya	49
Chemist & Druggist (Poisons Guide)	58	Halewood Chemicals, Ltd.	42
Chemist & Druggist, Truss Fittings	55	Hall, Forster & Co., Ltd.	44
Clinical Products Ltd.	20	Hardy & Webster, Ltd.	16
Codis	2	Harley, T., Ltd.	Leader Page
Cox Arthur H., & Co., Ltd.	8	Harris, Hart & Co., Ltd.	42
Crookes Laboratories, Ltd.	3	Harrison, A., & Sons, Ltd.	4
Culmak, Ltd.	Leader Page	Herbert & Sons, Ltd.	
Cuxson, Gerrard & Co., Ltd.	46		

(continued overleaf)

From the Carnegie Range of Fine Chemicals

**THEOPHYLLINE
AND SALTS**

CARNEGIE CHEMICALS (WELWYN) LTD

WELWYN GARDEN CITY : HERTFORDSHIRE : ENGLAND

Telegrams: CARNECHEM, WELWYN GARDEN

Telephone: WELWYN GARDEN 506 (4 lines)

INDEX (cont.)

	Rapidol, Ltd.	56
	Rayner & Co., Ltd.	16
	Riley, J., & Sons, Ltd.	44
	Rose, J. L., Ltd.	42
	Roussel Laboratories, Ltd.	6
	Sanatogen Nerve Tonic	33
	Sanatogen Tonic Wine	7
	Sanford Mnfg. Co., Ltd.	39
	Scott & Turner, Ltd.	45
	Scurr, C. A.	Leader Page
	Sessions, Wm., Ltd.	Leader Page
	Skuse & Co., Ltd.	Leader Page
	Smith, T. & H., Ltd.	Cover ii
	Standard Synthetics, Ltd.	54
	Steiner Products, Ltd.	57
	Steradent	9
	Tattoo	18
	Thermos (1925), Ltd.	44
	Thurgar Bolle, Ltd.	24
	Tomlinson & Hayward, Ltd.	23
	Universal Metal Products, Ltd.	35
	Vacco, Ltd.	43
	Ventin & Odone	14
	Wallis Laboratory, Ltd., The	4
	Watford Chemical Co., Ltd.	30
	Whiffen & Sons, Ltd.	Cover iii
	Whitelaw, J. N., Ltd.	46
	Wiles of Woodmansey	26
	Wimsol, Ltd.	54
	Zeal, G. H., Ltd.	Cover iv

ROUSSEL LABORATORIES LTD.

847 Harrow Road, London, N.W.10

LADbroke 3608

DISPATCHED IMMEDIATELY
on receipt
of orders



This is the new 16-sheet poster that is proving a "Tonic" to 'SANATOGEN' TONIC WINE sales. It underlines and reinforces the theme of the current advertising campaign which is encouraging sales on a national scale. Tie-up with this important publicity by stocking, displaying and *selling*—

"SANATOGEN"

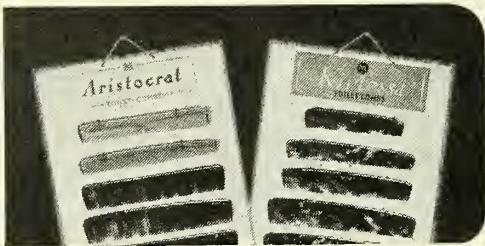
TONIC WINE

Sole Distributors: Whiteways Cyder Co. Ltd., Whimple, Devon.

PRIVATE FORMULAE and individual packs

A feature of the COX organisation's widespread activities is the manufacture of **PILLS**, **TABLETS** and packed pharmaceuticals to private formulae in any quantity, with or without individual packaging. Special facilities have been created solely for this purpose, including the advantage of consultations with experts wherein your particular requirements can be freely discussed. Advice and guidance drawn from a century's accumulated knowledge form part of this progressive service.

You can rely on **Cox**^{ARTHUR H.}
of BRIGHTON & CO. LTD.



Combs of charm and colour to adorn the dressing table . . . combs which will grace the handbag . . . or good, hardwearing pocket combs . . . you get them all in the

ARISTOCRAT and KIRTESSA ranges

Combs of quality selling at reasonable prices

ARISTOCRAT

DISPLAY CARD

One dozen fine quality combs
in various sizes and colours

19/9 per card

Plus 33½% Purchase Tax

KIRTESSA

DISPLAY CARD

One dozen distinctive shell
combs in six sizes

17/6 per card

KIRTESSA

FREE COUNTER DISPLAY CABINET

Given free with orders for one gross.

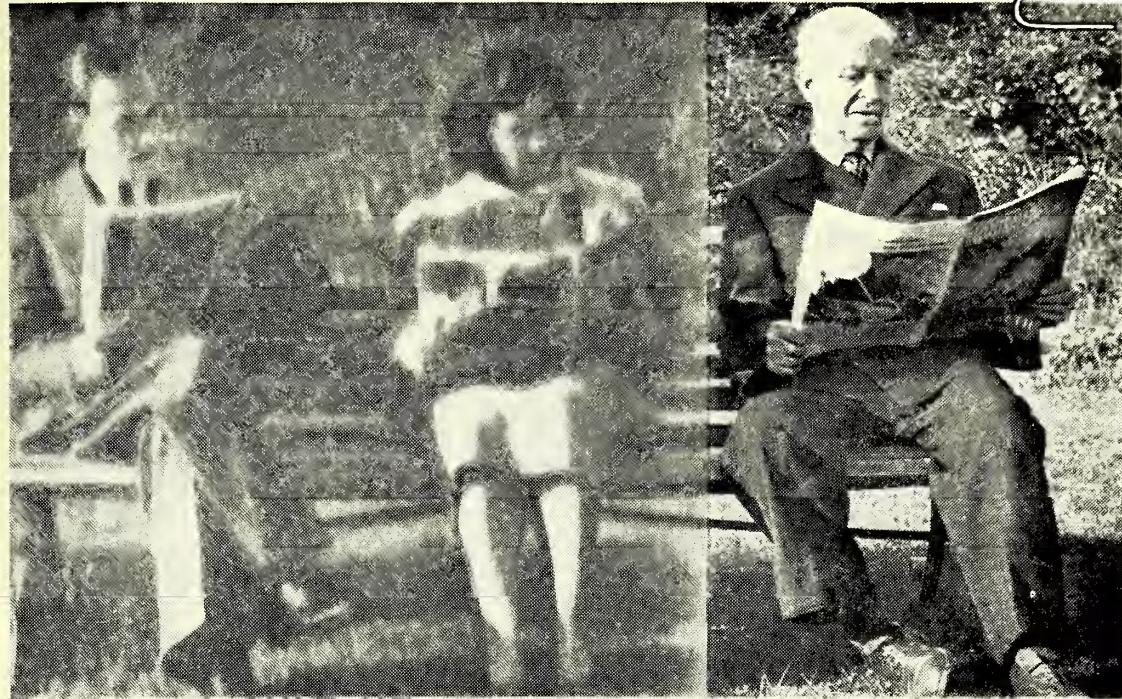
	£	s.	d.
Gross Assortment	9 10 6
Purchase Tax	3 3 6
Total selling price	17 9 0
Your profit	4 15 0

*All goods
sent carriage paid in
free packages*

STOCK UP IN TIME FOR THE EASTER HOLIDAY

MACDONALD & SON LTD. · HOPE MILLS · POLLARD STREET · MANCHESTER, 4

*Needs to be
developed fully!*



*One-third of the market already uses a denture
cleaner . . . two-thirds awaits development*

1 in 3 of the twenty million denture wearers already use a specific denture cleaner. But the other two-thirds still use makeshifts. Even kitchen scourers!

Research shows that when customers try Steradent they keep on buying it. Steradent's lively, new biggest-ever advertising is aimed at those remaining two-thirds!

So just show your customers that you stock Steradent and (if we may strain the metaphor beyond endurance!) . . .

*Draw in the other two
with Steradent!*

It's another great Sales and Profit idea
from **Max Factor** Hollywood

Satin Flow

the remarkable new facial
CLEANSING LOTION

CLEANS THE FACE CLEANER . . . YET
LEAVES THE SKIN SOFTER THAN WITH
ANY SOAP OR CREAM

Satin Flow is a *new* method of facial cleansing *perfected* by Max Factor and perfect for every type of skin. Just smooth it on — wipe it off — and the skin is immaculate. No hint of dryness, no greasy after-film.

SELLING AT 3/11



NATION-WIDE RESEARCH . . .
PRACTICAL TEST CAMPAIGNS

PROVE IMMENSE

Satin Flow

POTENTIAL

TIE IN WITH THE GREAT NATIONAL SATIN FLOW
PROMOTION COMMENCING FEB. 22 AND GET YOUR
FULL SHARE OF EXTRA SALES . . . EXTRA PROFITS.

Order Now!

—and make sure your stocks are ready to meet any demand.

MAX FACTOR, HOLLYWOOD & LONDON (SALES) LTD., 16 OLD BOND STREET, LONDON, W.1

A very
effective
formula
against



COUGHS, COLDS, CATARRH, HAY FEVER

These handy tins of Potter's Catarrh Pastilles are selling more readily now than ever before! Partly because *demand is increased* by regular big-space advertising in mass-circulation newspapers and magazines. Partly because Chemists find Potter's new point-of-sale displays *well worth counter-space*. And certainly because *customers buy repeatedly*—thanks to the highly dependable Potter's formula giving them the kind of quick relief they need in convenient pastille form.



Potter's CATARRH PASTILLES

Orders
THROUGH
WHOLESALEERS
ONLY
please

POTTER & CLARKE LTD
RIVER ROAD • BARKING • ESSEX
Telephone : RIPPleway 3041





A valuable addition to every First Aid Box

'Cetavlex' Cream, containing 0.5% 'Cetavlon' (Cetrimide B.P.) in a water-miscible base, is a particularly effective germicidal application for the control of infection in wounds and burns, and for the treatment of various infections of the skin.

'Cetavlex' Cream can be recommended with confidence for general antisepsis and healing—in hospital, in the factory, and in the home.

Tubes of 50 grammes. Retail Price 2/6 each.



'CETAVLEX' Cream

Trade Mark

A new formulation of 'Cetavlon'

IMPERIAL CHEMICAL (PHARMACEUTICALS) LIMITED

A subsidiary company of Imperial Chemical Industries Limited Wilmslow, Manchester



New Extra Strong



for even heavier sales

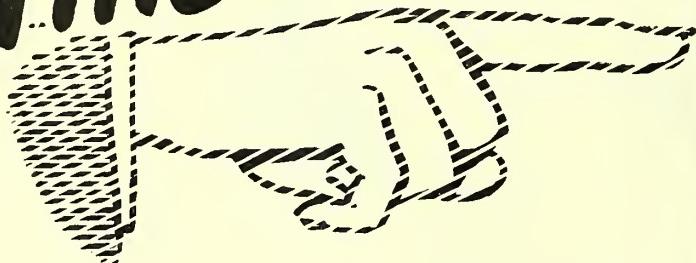
New Extra Strong **dip** — the Permanent Starcher — is better than ever this year. Now **dip** will resist even more washings, give clothes even greater protection, and save your customers even more time, money and trouble. A powerful national advertising campaign, starting this month, will ensure that customers everywhere know this!

Many retailers doubled their turnover of **dip** last year. Sales will increase even more spectacularly now that New EXTRA STRONG **dip** is on sale — still at 1/9d.

Show the new **dip** display carton on your counter. It will sell more and more **dip** for you. Show **dip** in your window — and so get all the extra **dip** business. **dip** carries a retail margin of 25%. Look to your stocks and place an order for New Extra Strong **dip** with your wholesaler — our advertisements start in February.

The British Permanent Starch Co. Ltd., 87 Regent Street, London, W.I (REGent 3955)

YOU WILL SOON BE ASKED FOR THIS



RETAIL
PRICE
6/6



A BIG FUTURE has been confidently predicted for this new remedy, Ventin's "Venese" Anti Gastric Mixture. This new Mixture, formulated by a London professional man for his own relief and since proved remarkably successful in numerous other cases, has not only evoked a flow of letters of real gratitude from those sufferers who have already had an opportunity of securing it, but has also been favourably commented upon by various authorities. Up to the present, publicity has been confined to a few restricted localities where it has proved a lively and increasingly rapid seller.

NOW NATIONAL PUBLICITY STARTING IN MARCH

will introduce it to the rest of the country. This publicity is in the able hands of T. C. Bench Ltd., who, for over 30 years, have specialised in "medicine" advertising and built up a reputation second to none in this field. A rapidly expanding demand from all over the country is anticipated and every chemist should, therefore, stock up at once with a trial order of Ventin's "Venese" Anti Gastric Mixture so as to take full advantage of this demand right from the start.

For Trade terms, please contact your usual wholesaler or write direct to the address below

**ONE 6/6
BOTTLE FREE
IN EVERY DOZEN**

As a special introductory offer we will include one 6/6 bottle FREE in every dozen. This offer is open until March 13.

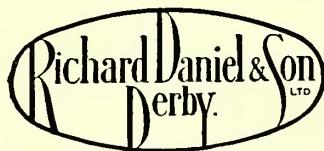
VENTIN & ODONE
Medicinal Products Ltd.
VERODO BUILDING, HAMPDEN RD., MUSWELL HILL, LONDON, N.10
Telephone: Tudor 1187

PENICILLIN PREPARATIONS

LOZENGES · TABLETS · OINTMENTS · Etc.

Aids to Dispensing Outfits of Creams and Drops

MANUFACTURED BY



DISTRIBUTED BY

MOORE MEDICINAL PRODUCTS LTD

1 QUEENS TERRACE
ABERDEEN. Tel: 27233

64 GLOUCESTER PLACE
LONDON, W.I. Tel: WELbeck 5718/9

Detailed Price List on Request.

Introducing

'TERCIN'

FOR MILD FORMS OF PAIN

"Aspirin and phenacetin are effective and useful, and a sedative effect is obtainable if a barbiturate is combined with them. . . . The reputation of codeine as a pharmacologically useful drug is at present waning, for the analgesic effect of the compound tablet of codeine B.P. is probably due more to its content of aspirin and phenacetin than to the $\frac{1}{8}$ gr. (8 mg.) of codeine present. It is a weak analgesic even when given in full doses." (Brit. Med. J. 1952 (Oct. 25th) ii, p. 928)

Tercin combines aspirin and phenacetin with a barbiturate. It is intended for the relief of all those mild forms of pain for which Tablets of Aspirin, Phenacetin and Codeine have hitherto been prescribed.

Its cost to the National Health Service is no greater than that of Tab. Codein. Co. B.P.

Tercin is available in tablets containing aspirin 5 grains, phenacetin 3 grains and butobarbitone $\frac{1}{2}$ grain.

For dispensing only, in bottles of 200 at 5/-, and 1000 at 26/-

THE BRITISH DRUG HOUSES LTD. LONDON N.1

Trem/T/1



Make your window SELL!

Set the sturdy youngsters on these SevenSeas showcards to work for you. Their health and happiness make a strong *appeal*, and bring more and more customers into your shop. Feature them in your window with a colourful display of SevenSeas products, and watch your sales rise. For a SevenSeas display 'sells' your customers *outside* your shop! Write for the attractive 'Health and Vitality' and 'Mother and Baby' showcards — without delay!

SevenSeas

PURE COD LIVER OIL

British Cod Liver Oils (Hull & Grimsby) Limited, St. Andrew's Dock, Hull.

For acidosis...
recommend

Rayner's Lembar

all the year
hot or cold



Lemons

Glucose

Scotch Barley

Sugar

MADE BY RAYNER AND COMPANY LIMITED, LONDON, N.18



NEW Nylon OVERALLS

*Economical
Efficient
Beautiful
Long Lasting*

Save money, time and labour by wearing NYLON OVERALLS and buying them for your staff! They're not expensive because they long outlast those made from cotton and other natural fibres and retain their crisp and attractive appearance after years of service.

They don't soil so easily, wash in ordinary soap or soap-flakes, dry in a few minutes and require little or no ironing, **THUS ELIMINATING COSTS!!** Finally they do not shrink and all colours are guaranteed fast dyes.

With long or short sleeves, in Lido Blue, Turquoise, Spring Leaf Green, White.

For further details write to :

**HARDY & WEBSTER DEPT. CDI
No. 1 Factory, Dewsbury Road, LEEDS**

BACKGROUND TO BARBITURATES



Aerial view of the Geigy factory, Manchester

Modern up-to-date manufacturing plant,

constantly in operation, vigilant research laboratories admirably equipped . . . that is the impressive, present-day background to the Geigy production unit. Barbiturates are produced at the Geigy factory in Manchester to exacting standards of quality, and in a steadily expanding range.

PHENOBARBITONE B.P.

PHENOBARBITONE SODIUM B.P.

BARBITONE B.P.

BARBITONE SODIUM B.P.

BUTOBARBITONE B.P.C.

AMYLOBARBITONE B.P.C.

AMYLOBARBITONE SODIUM B.P.C.

CYCLOBARBITONE B.P.C.

CYCLOBARBITONE CALCIUM

HEXOBARBITONE B.P.

METHYLPHENOBARBITONE B.P.

QUINALBARBITONE SODIUM B.P.



PHARMACEUTICAL LABORATORIES GEIGY LTD

Rhodes,

Middleton,

MANCHESTER

FC. 15

NOW! 5 day
 in STICK form
 with NEW wonder **CHLOROPHYLL**

Introducing

Chlorophyll, nature's own deodorant, combined with the anti-perspirants of the well-proved 5-day formula in this handiest of all forms — THE 5-day STICK deodorant.

Each stick wrapped in metal paper and in handy light aluminium container . . . easy to apply . . . non greasy and non irritant . . . doesn't harm clothes . . . lasts for days and days.

STICK
DEODORANT

**Quick Sales
 with Chlorophyll
 products
 plus Extra Profits
 with this**

**SPECIAL
 INTRODUCTORY
 OFFER
 12 FOR THE COST
 OF 11**



FREE This Self-service Counter Dispenser. Size $7\frac{1}{8}'' \times 5\frac{1}{2}''$ holds one doz.

Sole Distributors: FASSETT & JOHNSON LTD., 86 Clerkenwell Road, London, E.C.1

1952 Alka-Seltzer sales break all records

1953 EVEN BIGGER THINGS AHEAD!

SALES of Alka-Seltzer last year set up a wonderful new record—and the outlook for 1953 is even brighter! Through its extensive advertising campaign Alka-Seltzer is becoming known to more and more members of the public every day. Make sure you get your share of this good business—send in your order promptly and keep your stocks well up!

NATIONAL PRESS



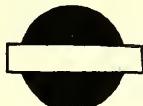
Alka-Seltzer's press campaign is seen by over 30,000,000 people in the national press—including the Daily Express, Daily Mail, News Chronicle, Daily Mirror, Daily Telegraph, The Times, News of the World, Sunday Pictorial and Sunday Times.

RADIO LUXEMBOURG



Over 2,000,000 people tune in to 208 metres on Wednesdays at 9.45 p.m. and Sundays at 9.15 p.m. to hear the Alka-Seltzer programme featuring the popular American singers Curt Massey and Martha Tilton. Join your customers and listen too—you'll enjoy it!

LONDON TUBES



Full-colour tube cards, backing up the press campaign, are appearing in London's tube trains, and are seen by over 1,000,000 people.

Write for attractive show material and details of display discounts to:

DON S. MOMAND LTD.

58 ALBANY STREET, LONDON, N.W.1.

Sole distributors for MILES LABORATORIES LTD., BRIDGEND, SOUTH WALES

supplied only to chemists



uniprin

calcium-aspirin tablets

stable soluble palatable
non-irritant & rapidly effective

. . . an aspirin combination of proven excellence

RETAIL PACKING (*a profitable counter-line*)

40 tablets 2/3d. each (incl. P.T.)

trade - 15/3d. per doz. (5/1d. P.T.)

SPECIAL OFFER—*free with every order for 2 doz. x 2/3d.* uniprin *a small attractive display unit containing 3 x 2/3d. packings.*

DISPENSING PACKINGS (*P.T. exempt*)

100 tablets 3/- net 500 tablets 11/4d. net

250 tablets 6/- net 1,000 tablets 21/3d. net

uniprin is available from all wholesalers

Can be included in "CPL" special bonus terms (10% extra discount on orders for "CPL" preparations to the net value of £5 and over). "Bonus" and "Special Offer" orders direct to us indicating the wholesaler for invoicing.

New detailed Price List on request.



CLINICAL PRODUCTS LTD., RICHMOND SURREY

Telephone RICHmond 4023/24 4409 5931

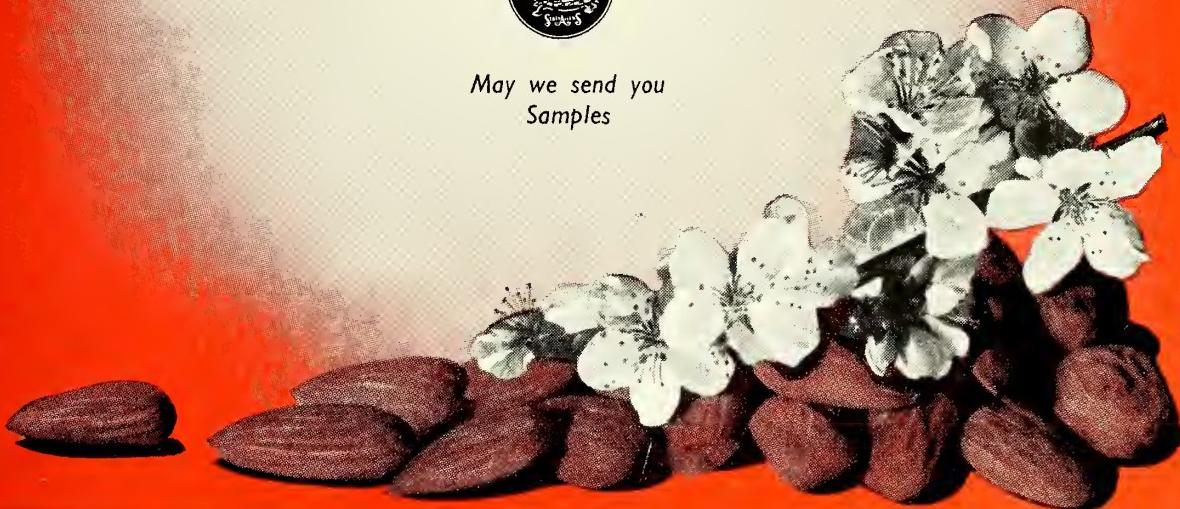


Cold-pressed
ALMOND OIL
AND
APRICOT KERNEL OIL

Expressed at our Wharf Road works without the use of heat, these pure oils are the finest available and have for many years been specialities of the house.



May we send you
Samples



STAFFORD ALLEN & SONS LTD. Wharf Rd. London, N.1 CLErkenwell 1000

TAS AL 438

D

BARTLETT'S
Super Value

Protector
BRAND

SunGlasses

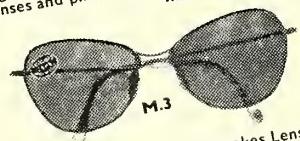
★ 4 FEATURES FROM THE NEW RANGE



The very latest style Sun Glass with heavily engraved front and branch. Crookes Lenses and pin-hinges. Various colours.
RETAIL PRICE 3/6



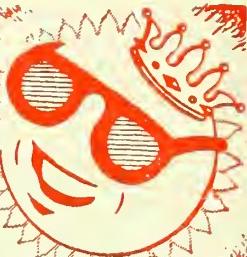
Jewelled Sun Glass with Crookes Lenses. Crystal Rose, Champagne, Blue and Clear — also Shell colour. Decorated with rhinestones.
RETAIL PRICE 4/6



Metal frame, pilot-type. Crookes Lenses. Choice of 5 patterns in Gilt or Nickel plated finish.
RETAIL PRICE 7/6



CLIP OVERS. Sliding bar style with Crookes Lenses. Panto or Quadra shape. Nickel finish - RETAIL PRICE 3/9
Gilt finish - RETAIL PRICE 4/9



for Coronation Year

IN the new "Protector" Brand Sun Glasses, Bartletts offer keener value and a wider choice than ever before.

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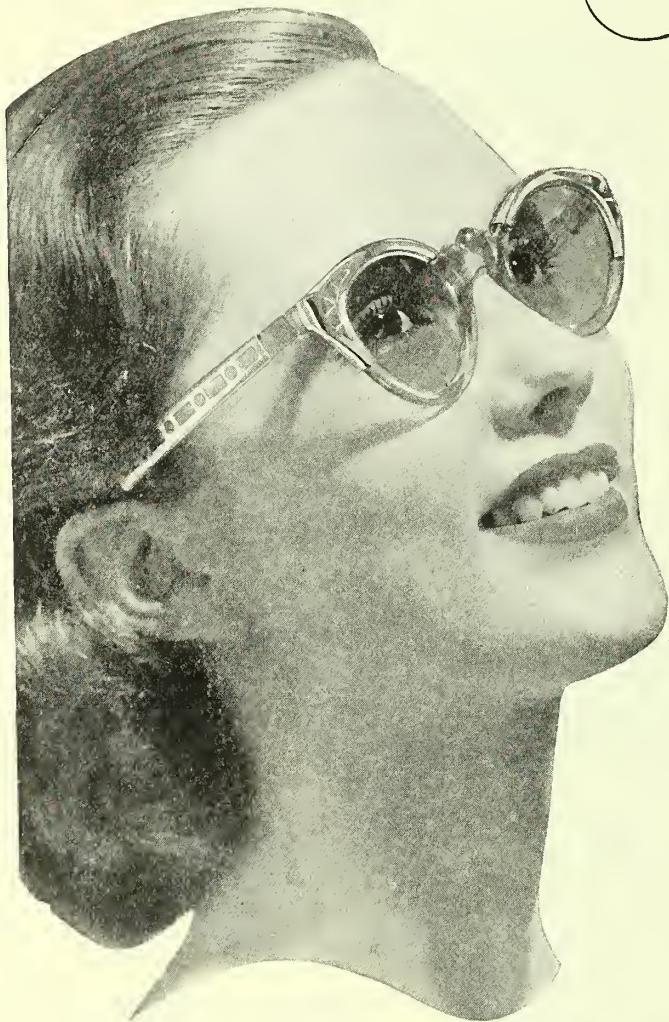
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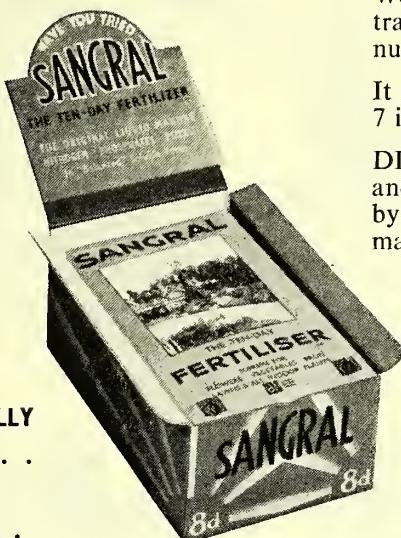
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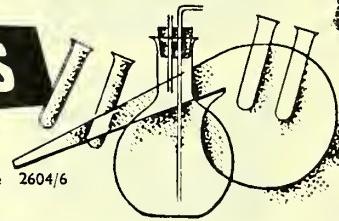
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THE CHEMIST AND DRUGGIST

ESTABLISHED 1859

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Official organ of the Pharmaceutical Society of Ireland
and the Pharmaceutical Society of Northern Ireland

Volume 159 February 14, 1953 No. 3808

CONTENTS

A Pharmacist's Anthology	...	159
Chemists in Flooded Areas	...	153
Exeter Brains Trust	...	152
HORTICULTURAL ARTICLES:		
A Calendar	...	161
A Private Research Station	...	170
Advice to Growers	...	159
Building up a Department	...	160
Chemical Control of Growth	...	167
Chemicals in Crop Protection	...	162
Horticultural Formulas	...	166
Maintaining Soil Fertility	...	168
Soil Testing and Sterilisation	...	171
Irish Health Services Bill	...	154
Leading Articles: —		
Horticulture in the Pharmacy	...	157
The Irish Health Bill	...	157
Onward from Galen	...	159
Topical Reflections	...	147
Toilet Preparations Federation	...	153
Text of the Pharmacy Bill	...	155
Births	...	149
Branch Meetings	...	175
Business Changes	...	148
Coming Events	...	174
Correspondence	...	158
Deaths	...	149
Legal Reports	...	148
Marriages	...	149
New Companies	...	148
P.A.T.A. Supplement		
Personalities	...	149
Trade Marks	...	174
Trade Notes	...	150
Trade Report	...	172
Week in Parliament	...	153
World Trade	...	174

INDEX TO ADVERTISERS, Pp. 5 & 6.

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The CHEMIST AND DRUGGIST

Volume 159

FEBRUARY 14, 1953

No. 3808

Eastbourne to produce ACTH PRODUCTION BY MARCH 1954

AT Hampton Park, Eastbourne, on February 6, the first pile was driven in by the mayor of Eastbourne for a new factory for the Armour Laboratories (Armour & Co., Ltd.). It will be devoted principally to the manufacture of Acthar gel, a long-acting presentation of the purified hormone. The factory is expected to be fully productive by March 1954.

The new laboratory, erected on a five-acre site, will be the largest of its kind in Britain. It will enable the gel to be produced on a scale that will provide a surplus for export to Europe, the Commonwealth and the Near and Far East. The basic raw material will be imported from America, but dollars will be saved because the purifying and processing operations will be carried out in Britain.

The gel is designed to enable maintenance injections to be given at much greater intervals (possibly of as much as a fortnight) and without pain at the site of injection. It is claimed to be "many times more efficient and easily controllable" than the powdered drug. When fully available, it will enable rheumatoid arthritis and asthma patients to be treated with the hormone at home. [At present supplies of the hormone are channeled to certain hospitals by the Ministry of Health.]

FRANCO-BRITISH LINKS

Plans for Harrogate meeting

ARRANGEMENTS have been completed for the third Franco-British Pharmaceutical Congress, Harrogate, 1953. It is expected that at least 100 French pharmacists and their ladies will come to Harrogate and a good attendance of British to act as hosts will be welcome, for the object of the meeting is to bring the pharmacists of the two countries together and to continue what was achieved at the first two meetings at Brighton and Vichy. French and British visitors will stay at the Grand Hotel and at another hotel close to it, and the social events will take place at the Grand or in accommodation kindly provided by the Corporation. The following is an outline of the programme:

Friday afternoon and evening ...	Visitors arrive.
Saturday morning .	Session of the Congress with papers in French and English.
Saturday afternoon	Free time for social contacts.
Saturday evening ...	Banquet.
Sunday ...	Full day excursion.
Monday ...	Farewell dinner.
	Visitors disperse.

The cost for the full weekend (Friday tea to Monday breakfast), including hotel and wines at the banquet but excluding wines at other meals, will be £10 per person. There will be reduced charges for day visitors and for those not requiring hotel accommodation. Non-pharmacist friends of members will be welcome. Application forms may be obtained from the Secretary of the Harrogate Branch: Mr. R. W. Jackson, 54 Harlow Crescent, Harrogate, Yorks.

SULPHURIC ACID

Higher Production and Demand

PRODUCTION of sulphuric acid in the United Kingdom during the last quarter of 1952 increased to 424,634 tons (100 per cent. H₂SO₄) from 316,515 in the previous quarter, according to the returns of the National Sulphuric Acid Association, Ltd. That figure re-



FLOOD APPEAL AT DINNER-DANCE: Mr. T. Heseltine (vice-president of the Pharmaceutical Society) appealed to members of the Mansfield Branch of the Pharmaceutical Society at their annual dinner and dance on February 4, to give as much as they could to the flood relief fund for East-coast victims. He said that at least twelve pharmacists had suffered in the disaster. The chairman was Mr. P. D. J. Spaanderman, and other speakers included Messrs. F. W. Shepherd (chairman, Nottingham Pharmaceutical Committee), N. F. Baylis (Clerk of the Nottingham Executive Council) and the mayor of Mansfield (Alderman C. H. Langham).

presented 83.9 per cent. of capacity (against 62.6 per cent. in the previous quarter). Returns for the year 1952 show that production was 1,505,473 tons representing 74 per cent. of capacity, against 1,606,078 tons in 1951. Consumption of acid followed closely on production and was 1,552,023 tons (including 22,000 tons imported acid) for the year and 428,592 tons for the final quarter.

PRESCRIBING COSTS Doctors seek information

A RESOLUTION calling for a system whereby the prescribing costs of individual doctors are calculated so that comparison can be made with the average prescribing costs of the area, passed by the Sheffield local medical committee, was considered recently by a meeting of the General Medical Services Committee of the British Medical Association. The resolution pointed out that cases of persistent over-prescribing would thus be revealed and necessary action could be taken. The chairman of the Committee (Dr. A. Talbot Rogers) said that he thought that the suggestion would be welcome. The Ministry, when asked recently what was the position with regard to the pricing of prescriptions and whether it would be possible shortly to resume the system of area averages had appeared to be satisfied that it was gradually catching up on the time lag of pricing. When asked if there was any possibility of letting doctors know the average cost of prescriptions the Ministry indicated that it would be difficult to go back to the old system of pricing every prescription; it would be too costly and time-consuming. But when they had caught up a little further with the time lag a simple method could be introduced whereby a doctor could be told, from a sample of his prescriptions, the cost of his prescriptions compared with those of other doctors in the area. That might be introduced shortly and would be an improvement on the arrangements at present in force.

OUT-OF-WORK BENEFIT Additional Days

DRAFT regulations to lengthen the periods for which unemployment benefit may be drawn have been drawn up by the Minister of National Insurance (National Insurance (Additional Days of Unemployment Benefit) Regulations, 1953, H.M. Stationery Office, price 4d.) and passed to the N.I. Advisory Committee to be reported on. Under the new regulations there is, for persons who have been insured for five years, the possibility of additional days of benefit up to a maximum of 312. The regulations are intended to have effect from July 5.

NITRATE DUTY

THE Treasury has made an Order (published as S.I. 1953, No. 141), effective from February 9, which provides that the exemption of potassium nitrate from the general *ad valorem* duty of 10 per cent. shall not apply to synthetic potassium nitrate.

LOCAL NEWS

Under-secretary in Cornwall

AN open meeting of the Cornwall Pharmaceutical Committee was held in Truro on January 2. Miss E. M. R. Russell-Smith (an Under Secretary, Ministry of Health) spoke on "The General Pharmaceutical Services in the National Health Service." Miss Russell-Smith explained how the Treasury were continually putting pressure on the Ministry to keep Health Service costs within a limit sanctioned by Parliament. The costs of the hospital services and the average cost of prescriptions were steadily increasing. The pricing of prescriptions was being speeded up and there was hope of it being up to date soon. A point made at question-time was that if the chemists owed the Treasury instead of the other way about means and staffs would be quickly obtained to ascertain the exact amount owing by the chemists.

Councillors Visit Factory

MEMBERS of the Mansfield town council visited the Beeston factory of Boots, Ltd., on January 22. Mr. D. S. Greensmith (education and training officer of the company) explained to them that there was an erroneous belief that the company was started by Jesse Boot himself. The business was actually started by Jesse Boot's mother and father, who were farm workers at Radcliffe-on-Trent, and came to Nottingham in the middle of the nineteenth century. Mr. Greensmith outlined the history of the company. The visitors who included the mayor and mayoress (Alderman and Mrs. C. H. Langham) and Mrs. Bernard Taylor (wife of the M.P. for Mansfield) were welcomed at lunch by Mr. K. Harper (assistant production manager) and conducted round parts of the factory.

Wrong to Hand Children Drugs?

AT a meeting of Lindsey (Lincs) Executive Council recently a resolution asking the Minister of Health to introduce legislation prohibiting dangerous drugs from being handed to children was defeated. One member maintained that it was wrong that chemists should hand over drugs like phenobarbitone to children. A medical member said that if children were prevented from taking drugs home the patient might not be able to get them at all. Mr. H. L. Blake, M.P.S., protested that if a chemist did not make up the prescription he was liable to be reported to the Pharmaceutical Committee. Another doctor thought there was more danger to children from manufacturers making preparations that looked like sweets.

Society's Proposals Opposed

RESOLUTIONS passed at a meeting of the King's Lynn Branch of the National Pharmaceutical Union on January 22 were:—

1. That paragraphs 3 and 4 (on accommodation, equipment, staff, etc.; and external and internal appearance of premises) of the Revised Draft Statement on Matters of Professional Conduct are not acceptable; that the N.P.U. should oppose them;

that those paragraphs are not related to professional pharmacy and being commercial pharmacy are none of the Society's business. There was agreement with the N.P.U. directive on the matter.

2. That the B.A.N.C. sees no need in retail pharmacy for proposed recognition of assistants in pharmacy. If such recognition is desired for laboratory technicians (pharmaceutical) in hospital spheres, the Society could indicate, if necessary, some standard of competence and knowledge if the Society of Apothecaries, and Services standards are unacceptable.

IRISH NEWS

Pilgrimage to Lourdes

THE 1953 Irish pharmaceutical pilgrimage to Lourdes is taking place in August. The pilgrimage party leaves Dublin on August 4 and arrives back on August 20. The total cost is about £2 10s. per day. Early application, accompanied by a deposit of £2 and stamped addressed envelope should be made to the Secretaries, Pharmaceutical Pilgrimage Committee, 69 Palmerston Road, Dublin. British pharmacists who wish to take part can join the party in London. They will be charged proportionately less than the full cost.

Labelling of Medicines

THE Local Health Services Executive Committee of the Queen's Institute of District Nursing has sought the help of the Londonderry Health Committee on the inadequate instructions on the labels of drugs and medicines and the disposal of surplus drugs. District nurses are said to be reporting an increasing number of unlabelled medicaments in patients' homes. In many cases it is said that the doctor has given only verbal instructions for the use of the drugs and medicines. It is urged that the labels of drugs and medicines should give clear directions as to amount, time, and method of taking. Following inquiries to the Ministry of Health on the disposal of unused drugs in patients' homes a reply had been received that it was difficult to give any general advice, but that the Ministry would be glad if nurses would bring to the notice of doctors any cases where considerable quantities of drugs were left in patients' homes. The committee felt that reply was entirely inadequate.

Ulster Chemists' Association

AT the February meeting of the executive committee of the Ulster Chemists' Association, the president (Mr. C. L. Gordon-Rattie) in the chair, it was agreed that the Association should support the Proprietary Articles Trade Association by submitting their views to the Monopolies and Restrictive Practices Commission (see *C. & D.*, 1952, II, 874). A letter was read from the manufacturers of a new syrup explaining why the product had not been placed on the C.F. List and stating that the policy was to confine it to chemists. The committee felt that that was not a sufficient guarantee that after the product had been launched on the market the method of distribution would not be widened as had been the experience with other products. The secretary was

instructed to inform members that the product was not C.F. Complaints of difficulty in stripping and relabelling pharmaceutical preparations in tubes were discussed and it was considered that manufacturers might co-operate by supplying tubes with less permanent labels. The possibility of manufacturers selling galenicals by volume and metric weights after July 1 was considered. Various price changes were approved and accounts passed for payment. A manifesto on gift coupon trading (see *C. & D.*, 1952, II, 729) issued by the National Chamber of Trade was approved for circulation to members. As a few requests had been received for copies of the Belfast Hospitals Pharmacopœia which is now out of print the secretary was instructed to proceed with duplicating copies. It was reported that Messrs. J. Caldwell, W. R. McNabb and the secretary (Miss A. E. Strachan) had attended the Chemists Federation dinner in London, and that the president and Mr. R. J. Jeffers (chairman of the N.I.C.F. Committee) had been present at the C.F. luncheon, the monthly meeting and the C.F. council in London on January 29. The following, whose names had been approved at a previous meeting of the Associates' Committee were admitted to associateship:—*Pharmaceutical Chemists*, Messrs. W. H. Stewart, P. J. McCullough and G. McAtee; *Assistants*, W. R. Milligan and J. Quinn; *Apprentices*, Miss M. Hughes, Miss A. F. Troy, Messrs. A. H. H. Beattie and J. P. Burns. A subcommittee consisting of the president, Mr. W. H. Boyd, Mr. J. Caldwell, Miss C. E. Culbert and Miss L. M. Forrest, was appointed to arrange a whist drive on March 25 in aid of the N.I. Chemists' Benevolent Fund.

NEWS IN BRIEF

Cameras and Cosmetics Stolen.—Thieves who broke into a chemist's shop in Stafford early one morning took cosmetics and perfumes and about £200 worth of cameras.

West Riding Hip Harvest.—Over twenty-six tons of rose hips have been collected in the West Riding of Yorkshire this season. The Otley dépôt showed the best figure with 3,268 lb.

Tax on Hospital Supplies.—Relief of purchase tax on articles essential for hospital maintenance was urged by the chairman of governors of the Royal Masonic Hospital at a meeting held in London on January 28.

Pharmacy Fire.—While sitting in his flat above the shop recently, the manager of the Market Place, Beccles, Suffolk, branch of Boots, Ltd., noticed smoke coming from the mantelpiece and traced it to a fire in the shop below. No serious damage was done.

Merseyside Women Pharmacists.—The committee of the Merseyside branch of the National Association of Women Pharmacists is appealing for new members. Women pharmacists resident in the Merseyside area who are not already members are asked to attend a branch meeting [as announced under "Coming Events" in the week preceding each meeting].

TOPICAL REFLECTIONS

By Xrayser

The Disastrous Floods

At the time of writing, the count of pharmacies damaged or put out of use by the great floods of February 1 seems incomplete. Though the total may not be large, it is large enough to demand practical help in generous measure. Owners of businesses standing on ground well above flood level have no doubt done all they could to help neighbours less fortunately placed. But the Council of the Pharmaceutical Society has rightly made an appeal to members of the Society for prompt donations to a fund for the relief of necessitous pharmacists, and I hope that before this paragraph appears the suggested amount will have been raised. Members whose damage, if any, was limited to the loss of a few tiles from roofs are not likely to overlook the plight of others prevented from carrying on business normally. Clearance of flooded areas is proving a slow and exasperating task, with many setbacks. We read of repairs representing several days' work being swept away in a few minutes. Your remarks on emergency chlorination of water, with details of the process contributed to *THE CHEMIST AND DRUGGIST*, 1947, I, 345 by Mr. H. B. Mackie are very helpful.

Discussions on Dispensing

Dispensing has lately been discussed by two associations of students and at a brains trust (pp. 127, 129). The students who supported the proposition that recent advances in chemotherapy have made the art of dispensing obsolete put up, no doubt, "a good show," but I am glad to see that they were defeated by a substantial majority of votes. If your textbook "*The Art of Dispensing*" and others on that subject became redundant, pharmacists would presumably be no longer regarded as "dispensers to the nation." There would, in fact, be no dispensers needed: medicine, instead of being dispensed, would be handed out like grocery or confectionery. The curriculum for students would be changed by the omission of any test in compounding medicaments; candidates who passed their final examination might then be expected to wonder for what purpose they qualified. Dispensing, variously defined at different times, received a poetical description from one of the speakers at the students' debate: even if the name had not been reported, I should have guessed from the context of the word "creation" that a lady was speaking. The high claim for research in manufacture made by Mr. J. C. Hanbury at the brains trust is justifiable. That type of work offers, more than most, the thrill of discovery; one cannot wonder that keen young pharmacists are attracted to it.

Awkward Names

The suggestion in your "Current Causerie" (p. 34) that the authorities responsible "could, with a little effort, produce simpler names" for new non-proprietary substances used in medicine has my full support. Many of us whose chemistry is not of the latest model may well experience a feeling of despair when wading through one of the lists of officially approved names that appear at comparatively short intervals. A few years ago someone or some group enunciated the principle that each of these approved names should suggest, by its spelling, the composition of a substance as expressed in the full chemical name. It seems doubtful whether this praiseworthy ideal can be realised in every case. One of the latest of these lists begins with azamethonium bromide, and continues with benzylalkonium chloride, caramiphen, chloropyrilene, chloroquine, cocarboxylase, dextran and about five times as many more names. The first, second and fourth may be held to represent the longer names to which they are attached; I am not clear about the third, fifth and sixth; and dextran is printed with a blank in the opposite column. Seeing that it has been decided to adopt such substances officially, it might be better to steer clear of any attempt to compress a long name into three or four syllables and, instead, to coin a purely arbitrary word in each case.

LEGAL REPORTS

U.S. Title Appeal Succeeds. — The United States Court of Appeals for the Ninth Circuit has rejected an earlier ruling of the Federal Trade Commission barring the use of the word "liver" in the name of Carter's Little Liver Pills. The Court maintained that the Commission had committed a serious and reversible error in the conduct of the trial which required the whole case to be thrown out. The now-rejected order had said that the word "liver" could not be used in advertising, or in the product's name, because the pills had no effect on the liver. The attorneys for Messrs. Carter, however, pointed out to the Court that the Commission had denied them full and complete cross-examination.

Society's Appeal Dismissed. — The Court of Appeal, London, dismissed on February 5 an appeal by the Pharmaceutical Society of Great Britain against a judgment of the Lord Chief Justice given in the Queen's Bench Division on July 16, 1952, that a "self-service" shop of Boots Cash Chemists (Southern), Ltd., in Burnt Oak Broadway, Edgware, Middlesex, did not contravene the Pharmacy and Poisons Act, 1933 (which provides that drugs on the poisons list must be sold only by or under the supervision of registered pharmacists). Mr. H. V. Lloyd-Jones, Q.C., for the Society, said that customers at the shop collected goods from the shelves and took them to a cashier, who was supervised by a registered pharmacist. There was no suggestion that Messrs. Boots were exposing dangerous drugs for sale in that way. The question was whether they made an offer to sell articles, and whether the offer was accepted when the customer picked them up. "I submit," said counsel, "that a sale is effected by the taking of the goods. The Society has a duty to see that this part of the Act is observed, and is anxious to know whether it is right in allowing this practice to continue." Lord Justice Somervell, giving judgment, said that the drugs concerned were not dangerous. They contained only a small portion of poison, and could be bought without a doctor's prescription. The Society contended that the purchase was complete when the customer took the article. If that contention were right the registered pharmacist had no power to say, when the customer reached the cash desk, "This drug ought not to be sold to this customer." "I think," said his lordship, "that the contract is not completed until the customer has indicated the articles he wants, and the offer has been accepted by the shopkeeper. I can see no reason for making any implication other than that made by Lord Goddard—that this arrangement by Messrs. Boots is a convenient method of enabling customers to choose articles they wish to buy, and then to take them to the cashier and offer to buy them. On that conclusion the appeal fails, because it is admitted that at the cash desk there is supervision in the sense required by the Act." Lords Justices Birkett and Romer agreed that the appeal failed. Leave to appeal to the House of Lords was refused by the Court.

NEW COMPANIES

M. BLOOM (CHEMISTS), LTD. — (P.C.)—Capital £1,000. To carry on the business of manufacturing, photographic and general chemists, druggists, etc. Israel R. Bloom, M.P.S., 13 Bentcliffe Avenue, Leeds, 7, director.

PHILLIPS PARR, LTD. (P.C.) — Capital £8,000. To carry on the business of wholesale and retail chemists and druggists, etc. Richard G. Hodgkinson, M.P.S., and Robert F. Parr, directors. R.O.: 48 Wallgate, Wigan.

PACIFIC CHEMICALS, LTD. (P.C.) — Capital £5,000. To carry on the business of importers, exporters and vendors of pharmaceutical and chemical preparations, etc. Charles C. Young and Minnie M. Young, directors. R.O.: 77 Cannon Street, London, E.C.4.

BROOM CHEMISTS, LTD. (P.C.) — Capital £150. To carry on the business of wholesale and retail chemists, druggists, etc. Bertha A. Dove, M.P.S., 172 Dobcroft Road, Sheffield, 11, Eric W. Dove, Jack H. Cargill, Mena E. Cargill and Dorothy Snape, directors.

NEATEX TOILET PRODUCTS, LTD. (P.C.) — Capital £2,000. To carry on the business of manufacturers, wholesalers and retailers of toilet paper and toilet and surgical products, etc. Walter W. Shaw, Brigadier Arthur E. Cumming. R.O.: Wern Mills, Nannerch Mold, N. Wales.

INTERNATIONAL SUTURES (IRELAND), LTD. (P.C.) — Registered in Dublin. Capital £100. To carry on the business of chemists and druggists, etc. Norman H. Martin, Sandling Romanhurst Avenue, Bromley, Kent, and Harold N. Weeden, subscribers. First directors are not named.

INDUSTRIA (ORE & CHEMICALS), LTD. (P.C.) — Capital £100. To carry on business of general merchants; manufacturing chemists, carbolic and picric acid makers, etc. Leonard W. Dunnell and Francis Pethram, subscribers. Solicitors: Slaughter & May, 18 Austin Friars, London, E.C.2.

C. T. LABORATORIES, LTD. (P.C.) — Capital £100. To carry on the business of manufacturers of and dealers in chemical preparations, analytical and research chemists, etc. Frederick V. Wells, Robert S. Musel and Erwin I. Lubowe (New York, 24, U.S.A.), directors. R.O.: Turestin, The Street, West Horsley, Surrey.

CRAWFORD (LIFFORD), LTD. (P.C.) — Registered in Dublin. Capital £1,000. To carry on the business of wholesale and retail chemists and druggists, including manufacturing and dispensing chemists, etc. James Crawford, The Anchorage, Lifford, co. Donegal, Anne P. Crawford, subscribers. First directors are not named.

CURUST (IRELAND), LTD. (P.C.) — Registered in Dublin. Capital £5,000. To carry on business as manufacturers of and dealers in light and heavy chemicals, etc. Kathleen Grogan, 59 Rathdown Road, North Circular Road, Dublin, and Nora O'Connor, subscribers. First directors are not named.

SOMERSET PHARMACEUTICALS, LTD. (P.C.) — Capital £5,000. To carry

on the business of exporters, distributors and vendors to the veterinary profession, agents for and dealers in veterinary and chemical preparations, etc. Leslie Gregory, Richard B. Dawson, John M. Gregory, Peter S. Gregory, Horace R. Mole and Alistair N. Norden, directors. R.O.: 23 Fore Street, Wellington, Somerset.

Company News

MOLLY RICHARDS, LTD. — Miss Florence G. Richards has joined the company as a co-director with Miss M. V. Richards (Mrs. A. G. Hersom).

BORAX CONSOLIDATED, LTD. — Trading profit for year ended September 30, 1952, was £1,564,235 against £2,371,542 in the previous year. Net profit was £445,866 (£791,391).

FAIRY DYES, LTD. — A trading loss of £16,646 is recorded for the year ended November 30, 1952. The directors state that loss was due to adverse trading conditions coupled with increased costs. Dividend, nil (same).

Voluntary Liquidation

J. J. WHARMELEY & SONS, LTD., manufacturing and wholesale chemists, 251 Exchange Road, West Bridgford, Nottingham. Liquidators: Messrs. F. Banks, Milton Chambers, Milton Street, Nottingham, and O. G. Sunderland, 15 Eastcheap, London, E.C.3.

BUSINESS CHANGES

MR. R. C. EDWARDS (secretary of the West Middlesex Chemists' Association and Branch) has moved to 265A Fulham Road, Chelsea, London, S.W.3.

The name of Amor Richards, Ltd., manufacturing perfumers, 241A The Broadway, Wimbledon, London, S.W.19, has been changed to Molly Richards, Ltd.

Appointments

KAPUTINE, LTD., manufacturing chemists, have removed to Alex Parsons Works, Boardman Street, Oldham, Lancs (telephone: Oldham Main 3045).

ORTHO PHARMACEUTICAL, LTD., have appointed Mr. R. Hughie Thomas sales manager of the home sales division.

ROBERT GIBSON & SONS, LTD., Erskine Street, Hulme, Manchester, 15, have appointed Mr. F. W. Gibson, M.P.S., their drug room foreman.

THE PARLIAMENTARY SECRETARY TO THE MINISTRY OF HEALTH (Miss M. P. Hornsby-Smith, M.P.) has appointed Mr. G. W. Jamie-son to be her private secretary.

WILLIAM FREEMAN & CO., LTD., Subseal Works, Peel Street, Barnsley, Yorks, have appointed Mr. J. F. Habbick their representative for their Subseal and Subamaid domestic divisions in Scotland.

EVANS MEDICAL SUPPLIES, LTD., Speke, Liverpool, 19, have made their chief buyer (Mr. J. Gregson) responsible (following the death of Mr. George W. Bowen) for sundries purchasing. Mr. G. Vallender has been appointed acting sundries buyer.

BIRTH

HERSOM.—At St. Teresa's Nursing Home, Wimbledon, London, S.W.19, on January 18, to Mary Vivienne, wife of Albert George Hersom, a daughter.

MARRIAGES

FITZMAURICE — KENNELLY.—In Tralee, co. Kerry, recently, Edward Fitzmaurice (town surveyor, Tralee) to Mary Veronica Kennelly, M.P.S.I., 6 Castle Street, Tralee.

QUINN—BUTLER.—At St. Patrick's Church, Monkstown, co. Dublin, recently, John Quinn, M.P.S.I., Ballinasloe, co. Galway, to Eileen Butler, Castlerea, co. Roscommon.

DEATHS

BAKER.—On January 11, Mr. Daniel Sebbon Baker, M.P.S., 682 Holloway Road, London, N.19, aged eighty-three.

BELSHER.—At his home, Barnsley Cottage, Barnpark Road, Teignmouth, recently, Mr. Henry Ernest Belsher, M.P.S., aged seventy-five. Mr. Belsher qualified in 1899 and started his career as manager of a chemist's shop in Walsall, Staffs. Later he built up a chain of his own shops. At the age of forty-three he retired to Teignmouth, where he took an active part in local affairs. For a long period he served on the Board of Guardians at Newton Abbot, and was also connected with the Social Welfare and Old People's Committees. Mr. Belsher was an enthusiastic Rotarian. He was president of the local club in 1947, was chairman of the 17th District of Rotary International and travelled to a world conference of that organisation at San Francisco.

HEWERDINE.—On December 7, 1952, Mr. Walter Henry Hewerdine, M.P.S., c/o 136 High Street, Stourbridge, Wores. Mr. Hewerdine qualified in 1916.

JONES.—At Cardiff Royal Infirmary, on January 26, Mr. Edward Jones, M.P.S. (a director of Robert Drane, Ltd., 16 Queen Street, Cardiff), aged sixty-one.

LAYCOCK.—Recently, Mr. Edgar Laycock, M.P.S., 297 New King's Road, Fulham, London, S.W.6. Mr. Laycock qualified in 1921.

LEA.—On February 5, at 7 Brereton Avenue, Cleethorpes, Lincs, Mr. Edward Luke Lea, M.P.S., aged sixty-three. Mr. Lea was acting manager at Taylors Drug Co., Ltd., in Cleethorpes. His home address was 12 Lightburne Avenue, St. Annes-on-Sea, Lancs.

LONGDON.—Recently, Mr. Richard Arthur Frederick Robert Longdon, Marchington Hall, Uttoxeter, aged fifty. Mr. Longdon succeeded his father in 1938 as chairman and joint managing director of F. Longdon & Co., Ltd., Derby, surgical and elastic fabric manufacturers. He was fifth in direct line to manage the business since it was founded by a member of the family more than 160 years ago.

MANUEL.—On January 17, Mr. James Manuel, M.P.S., 29 Warren Road, London, E.10, aged sixty-eight.

PEARCE.—Recently, Mr. Oscar William Pearce, M.P.S., High Street, Castle Cary, Somerset. A native of Bradford-on-Avon, Mr. Pearce qualified in 1906, and had been in business at Castle Cary for twenty years.

SCHOLEFIELD.—On January 26, Mr. William Edward Scholefield, M.P.S., Squirrels, Collington Lane, Bexhill-on-Sea, Sussex. Mr. Scholefield qualified in 1899.

SWIFT.—On January 28, Mr. Herbert Henry Swift, M.P.S., 13 Chalfont Road, Oxford, aged seventy-nine.

UMNEY.—On February 5, after a short illness, Mr.

Ernest Albert Umney, Ph.C. (joint managing director and a former chairman of Wright Layman & Umney, Ltd., London). Mr. Umney started his career in 1891 after completing his schooling at the Merchant Taylors' School, by serving for a short time on the staff of Schimmel & Co., Leipzig, Germany. In 1892 he was apprenticed to William Martindale, 15 New Cavendish Street, London, W.1 (on whom he wrote some reminiscences in the *C. & D.*, 1952, I. 150-51), and afterwards studied at the School of Pharmacy of the Pharmaceutical Society, winning a silver medal in practical chemistry. He qualified as a Chemist and Druggist in 1896, and passed the Pharmaceutical Chemist examination in 1897. He was appointed a director of Wright, Layman & Umney, Ltd., in 1897, and chairman in 1935, a position from which he retired in 1951. For many years he was a trustee of the Glynn Jones Memorial Fund, and he was an auditor of the Pharmaceutical Society, 1928-52. Among his many other activities he was for many years a Commissioner of Taxes for Southwark. He was the fifth son of the late Mr. Charles Umney (the original Umney of the company).

Mr. James Hamerton, Ph.C., writes: Ernest Albert Umney was a son of that remarkably outstanding personality of the drug trade, Charles Umney. It was in October 1895 that my friendship with him commenced—as a fellow student at the School of Pharmacy of the Pharmaceutical Society. (I believe Mr. Thomas Tickle, then a demonstrator, is one of the few survivors of those times.) At the end of the session E.A.U. passed the Chemist and Druggist qualifying examination, and in 1897 passed the Ph.C. examination and was awarded the silver medal for practical chemistry. In those days he invited me from time to time to the family home at Sydenham, where I was highly entertained by the forthright characteristics of his father. During the next fourteen years I kept in touch with him, and in 1915 he invited me to join him at the Park Street laboratories of Wright, Layman & Umney, Ltd., where, for thirty-four years I remained in the closest daily

association with him. He was no less lacking in business acumen than his distinguished father, and, in conjunction with the late E. T. Neathercoat was instrumental in the formation of Savory & Moore, Ltd., and associated companies. In 1935 he became chairman of W.L.U., Ltd., and early in his chairmanship he was the leading figure in merging with his company the old-established export business of Dakin Bros., Ltd. Pharmaceutical engineering was one of his pet subjects and he was keen to adopt and develop any idea that would eliminate and improve upon monotonous manual labour. The entire reconstruction of the sadly war-damaged factory is now nearly accomplished and it is regrettable that he did not realise his cherished hope of witnessing its completion. By nature he was impulsively generous, and full of gay spontaneous wit and intensely interested in the historic associations of the district in which he worked. Close by is the site of Shakespeare's Globe Theatre and the pleasure haunts of Elizabethan days, and it was natural for him to become a trustee of numerous Southwark Charities. He was a Commissioner of Taxes for many years and had official connection with Southwark Cathedral. Always in close contact with the Pharmaceutical Society and in addition to being an auditor and trustee of the Glynn-Jones Memorial fund, he instituted the Umney Memorial prize fund for students.

PERSONALITIES

MR. OLIVER JAMES BARLEY, M.P.S., Thame, has been elected an alderman of the Oxfordshire County Council.

THE honour of knighthood has been conferred upon Mr. Hildreth Glynn-Jones, Q.C., M.P.S., on his appointment as a Judge of the High Court of Justice (*C. & D.*, January 17, p. 53).

MR. GEORGE HOLMES has retired as drug room foreman with Robert Gibson & Sons, Ltd., having served in that capacity for forty years. He has been with the company for nearly sixty years.

MR. E. G. FISHER, M.P.S., London, has been appointed technical consultant in thermoplastics to the Toa Gosei Chemical Industry Co., Ltd., Minato-ku, Tokyo, Japan. Mr. Fisher, who qualified in 1931, is remaining in Britain. He visited the company's factory in 1951, when he supervised the extrusion of the first length of polyvinyl chloride to be manufactured in Japan.



SALES TROPHY: Mr. William Briddon (South-eastern representative of Ortho Pharmaceutical, Ltd., Lane End, High Wycombe, Bucks) receives the managing director's trophy for "outstanding achievement in sales and service."

TRADE NOTES

Personal Weighing Machines.—Personal and baby weighing machines available from Herbert & Sons, Ltd., 38 Charterhouse Street, London, E.C.1, are described on another page.

Test Campaign.—Max Factor Hollywood & London (Sales), Ltd., 16 Old Bond Street, London, W.1, subjected



their Satin Flow facial cleansing lotion to a test campaign in five selected areas in advance of an intended national sales drive. They found that, wherever the product was advertised, women asked for it by name, and that the sales assistants reported most favourably upon it.

Tablets to Order.—G. O. Woodward & Co., Ltd., Larkhall Works, Nunhead Green, London, S.E.15, undertake the manufacture of tablets to customers' own formulas.

"Safety-shape" Container.—Drummer pine disinfectant, made by Wm. Edge & Sons, Ltd., Bolton, is now issued in a specially designed "safety-shape" bottle illustrated on another page.

Protection Against Moths.—Sample tin and trade price of paradichlorbenzene as packed for home use against moths of clothing, furs, blankets, etc., are obtainable from Tomlinson & Hayward, Ltd., 51 Newland, Lincoln.

Distribution Change.—Stanley Z. Jackson, 129 Carlton Street, Castleford, Yorks, manufacturers of DDT Flypak, have arranged for Dalmas, Ltd., Junior Street, Leicester, to handle its distribution. Advertising on a national scale is planned.

Bargain Offer.—For a limited period Revlon International Corporation, 61 Grosvenor Street, London, W.1, are offering to the public a regular size bottle of their Aquamarine lotion and a tablet of Aquamarine soap (complexion size) at a combined price bel-

low the total of the two sold separately.

Toilet Fitment and Flat Packets.—A combined pack of toilet fitting in white glazed earthenware in carton complete with fixing screws and plugs, plus two packets of Jeyes' interfolded toilet paper, is offered on special terms detailed on another page by the manufacturers, Jeyes' Sanitary Compounds Co., Ltd., Manor Road, Chigwell, Essex.

Showcard and Dosage Table.—A new cut-out showcard in three colours produced for Nema capsules by Parke, Davis & Co., Ltd., displays packages of three strengths of Nema worm capsules, and on the back bears a table of dosage for dogs of different breeds and ages. The card is intended to support a new campaign advertising Nema in leading animal periodicals.

Manufacture in Australia.—British manufacturers who may wish to take advantage of the manufacturing facilities of Rocke, Tompsett & Co., Melbourne (see *C. & D.*, February 7, p. 128) may get in touch with them in the first place through the company's European buying agents: Scholefield, Goodman & Sons, Ltd., 23 Lime Street, London, E.C.3.

Flavour Improved.—Calmic, Ltd., Crewe Hall, Crewe, announce that all elixir Cerevon haematinic compound dispatched to wholesalers since February 2 contains a new flavouring that is stated to improve the product without affecting its therapeutic value. They draw attention to a paragraph, "Iron Preparations in Secondary Anaemias," published under "Medical Abstracts" in the *C. & D.*, January 24, p. 91. Elixir Cerevon is available in containers of 4, 20, 40 and 80 oz.

Bonus Offers.—THE APOLLINARIS CO., LTD., Mason's Avenue, Wealdstone, Harrow, advise that a bonus offer of 1s. per doz. is being allowed on all orders for "gold cup" Jaffajuce until March 14. Orders should be sent to the Apollinaris Co., Ltd., giving the

name of the wholesaler.—During the four-month period from February 1 to May 30, DELAVELLE (G.B.), LTD., 38 Oisman Road, Kingsland Road, London, N.1, are offering twelve Go-deodorant sticks for the price of eleven on orders for three dozen and over.

Improved Trade Terms.—Until further notice the following additional discounts are being allowed on orders for F99 concentrate of the isomers of linoleic and linolenic acids (capsules, liquid or ointment) placed direct with the manufacturers, International Laboratories, Ltd., 18 Old Town, London, S.W.4: On £3 order, 5 per cent.; £6 order, 6 per cent.; £7 order 7 per cent.; £8 order, 8 per cent.; £9 order, 9 per cent.; £10 and over 10 per cent. F99 has no N.F. equivalent, is not advertised to the public and may be prescribed on EC10 forms.

Help for Flood Victims.—J. C. GAMBLE & CO., LTD., 209 Blackfriars Road, London, S.E.1, announce that their associated manufacturers offer to recondition any flood-damaged stocks returned to the company.—Immediately they received news of the floods, S. MAW, SON & SONS, LTD., Barnet, Herts, dispatched eleven cases of surgical dressings to the lord mayor of Norwich. Messrs. Maw received in reply a letter of thanks giving the information that three cases had been sent to Great Yarmouth and four each to depôts of the British Red Cross Society and St. John Ambulance Brigade.

Redesigned Packs.—The range of Anzora hair preparations has been redesigned, as to both bottles and labels, whilst retaining continuity with the superseded packs. The distributors, Fassett & Johnson, Ltd., 86 Clerkenwell Road, London, E.C.1, are supplying at special terms between April 1 and May 30 (33½ per cent. plus 5 per cent. for 3 doz. or 6 doz. mixed plus additional 5 per cent. on 6-dozen order supported by guaranteed window display).



NEW PRODUCTS AND PACKS

A New Tonic.—James Woolley, Sons & Co., Ltd., Victoria Bridge, Manchester, 3, have introduced a new tonic, Amphetamine, in bottles containing 10, 20 or 80 fl. oz.

Treating Angina of Effort.—Bentonyl, "a new treatment of angina of effort," is obtainable through wholesalers or direct from the manufacturers, Bengue & Co., Ltd., Mount Pleasant, Alperton, Wembley, Middlesex, in tube of fifty and dispensing pack of 250 pills.

Anti-gastric Mixture.—A new proprietary preparation to be nationally advertised from March is Venese anti-gastric mixture, manufactured by Venetin & Odone Medicinal Products, Ltd., Verodo Building, Hampden Road, London, N.10. Details of a special intro-

dutory offer, open until March 13, are given on another page.

Vitamin-A-D-complex Cream.—Coty (England), Ltd., 3 Stratford Place, London, W.1, have introduced into this country a product that has gained a considerable sale in America: a vitamin A-D-complex cream. These two vitamins and other moisture-giving elements are combined in the cream. One of the main advantages claimed for the cream is that its action is local. As it is not absorbed by the blood-stream, but easily assimilated by the skin surface, its effect is quickly apparent.

Variable-voltage Electric Shaver.—The Chilton Kub electric shaver is now issued by the manufacturers, Chilton Electric Products, Ltd., 5 New Bridge Street, London, E.C.4, in a new

model, fitted with variable-voltage control near the shaver head, enabling accurate tuning and use at any voltage



from 180 to 250 a.c. In addition, the shavers are now available in two colour schemes.

HORTICULTURAL TRADE

Soil-testing Apparatus.—Soil-testing equipment marketed by THE BRITISH DRUG HOUSES, LTD., Graham



Street, City Road, London, N.1, is one of those referred to on p. 171.

Fungicidal Preparations.—Fungicidal preparations for horticultural use are offered by BAYER AGRICULTURAL, LTD., Thornycroft House, Smith Square, London, S.W.1; F. W. BERK & CO., LTD., 1 New Oxford Street, London, W.C.1; MAY & BAKER, LTD., Dagenham, Essex; PEST CONTROL (U.K.), LTD., Harston, Cambs; PLANT PROTECTION, LTD., Yalding, Kent.

Insecticides.—The following are among manufacturers offering insecticidal and ovicidal preparations: F. W. BERK & CO., LTD.; CHEMICAL MANUFACTURING LABORATORY, LTD., The Drake Road Works, Tavistock, Devon; KAY BROS., LTD., Hurst Street, Reddish, Stockport; PEST CONTROL (U.K.), LTD.; PLANT PROTECTION, LTD.; WHIFFEN & SONS, LTD., Carnwath Road, London, S.W.6 (nicotine).

Selective Weed-killers.—Proprietary selective weed-killers are available from the following manufacturers:—BAYER AGRICULTURAL, LTD.; MAY & BAKER, LTD.; PEST CONTROL (U.K.), LTD.; PLANT PROTECTION, LTD.; JOS. WEIL & SON, Friars House, 30 New Broad Street, London, E.C.2.

Slug-killing Preparations.—Products for dealing with slugs in gardens are supplied by a number of makers, including CHEMICAL MANUFACTURING

LABORATORY, LTD.; H. R. NAPP, LTD., 3 Clements Inn, Kingsway, London, W.C.2; M. P. TOULSON, LTD., 18 Chequer Street, St. Albans, Herts.

Miscellaneous Horticultural Needs.—Retailers may obtain hormone preparations from MAY & BAKER, LTD., Dagenham; moss-control preparations from F. W. BERK & CO., LTD., London, W.1; tree bands from KAY BROS., LTD., Stockport; soil and seed dressings from BAYER AGRICULTURAL, LTD.; JEYES' LABORATORIES, LTD., Millbrook, Manor Road, Chigwell, Essex.

Ten-day Fertiliser.—Details are given on another page of a ten-day fertiliser, Sangral, packed ready for dissolving in water. The manufacturers, Lasco, Ltd., Carruthers Street, Liverpool, 3, point out that the display container holding eighteen packets has been produced for chemists, who are selling the product in increasing numbers.

Horticultural Chemists' Supplies.—BATTLE, HAYWARD & BOWER, LTD., Victoria Chemical Works, Newark Road, Lincoln, make a complete range of horticultural preparations including weed-killers, lawn sand, washes, nicotine preparations, leather-jacket killers, Bordeaux mixture, sterilising fluid,

NOTES

wasp and ant exterminators, and seed dressings.

Available to Gardeners.—In view of the public interest shown in Krilium soil conditioner since the announcement of its discovery just over a year ago, it is being made available to British home gardeners and small-scale horticulturists by the manufacturers, Monsanto Chemicals, Ltd., at whose Newport, Mon, works it is in full production. Distribution to wholesalers is the responsibility of Monsanto (Soil Conditioners), Ltd., Abford House, Wilton Road, London, S.W.1, a newly-formed and wholly-owned subsidiary. The product, marketed in a blend specially prepared to facilitate clean handling and easy working, and to be known as the Merloam formulation, is being supplied through normal retail channels in 1-lb. containers. The product to be marketed is based on a vinyl acetate/maleic acid copolymer and is not the polyacrylic acid product featured in announcements at the beginning of 1952. The Merloam formulation is considered to be the most suitable for British conditions at the present time. Krilium in the Merloam formulation is not being marketed otherwise than through recognised wholesalers.



Krilium in the Merloam formulation is sold in a 1-lb. sprinkler pack (left). The product is smooth-flowing, permitting the maximum degree of incorporation.

BRANCH MEMBERS IN EXETER BRAINS TRUST

Questions on economics, ethics, dress, dispensing tests, baldness, self-service

THE Exeter Branch of the Pharmaceutical Society held a brains trust in Exeter recently. Mr. H. Jarvis Graves presided. The team comprised Messrs. W. H. James, retail pharmacist, Sidmouth; H. J. R. Harding (territorial general manager, Timothy Whites & Taylors, Ltd., Exeter); J. H. Ward (Evans, Gadd & Co., Ltd., Exeter); and Miss I. G. Sheppick (Royal Devon and Exeter Hospital). The questions and answers are summarised below:—

Some manufacturers are discontinuing the production of various standard medical lines owing to small demand. Does the team consider that it is ethically correct for manufacturing houses to refuse orders on economic grounds?

MR. WARD: That is a matter for the industry.

MISS SHEPPICK: A pharmaceutical manufacturing house should be in a position to meet all requirements.

Appropriate Garb at the Counter?

Does the team think that it would be in the public interest that all pharmaceutical staff should, when on duty, wear a standard white garment in order that the public may easily be able to recognise a pharmacist by his dress?

MISS SHEPPICK: That would be a good idea. In my hospital experience I have found that various grades of hospital staff have distinguishing marks, badges or dress except the pharmacist.

MR. JAMES disagreed. He was against any regimentation.

MR. WARD: Pharmacists are easily distinguishable by the worried look that they habitually wear.

In prints and etchings depicting scenes in medieval apothecaries' shops, the apothecary is always depicted as wearing a black skull cap. Does the team consider that the Council of the Society should further amend its "proposed draft statement on matters of professional conduct" and insert a clause to make the wearing of a black skull cap obligatory on all pharmacists, whether bald or shaggy, when on duty?

MR. JAMES asserted his democratic rights to appear in his pharmacy with or without headgear.

MR. HARDING thought it a good idea and suggested a mask too.

MISS SHEPPICK and MR. WARD had no sympathy for the bald headed pharmacist but resented any suggestion of control.

In view of the present policy of the Council in respect of ethics and assistants, does the team think that territorial representation is more than ever necessary?

MR. JAMES: Most decidedly. We never see the candidates and rarely the members of Council.

MR. WARD: The present apathy is dangerous. Territorial representation would arouse interest.

Should training in business methods be included in the syllabus for future entrants into pharmacy and what subjects would the team drop in order to accommodate it?

MR. JAMES: Have it as an additional subject.

MR. HARDING: I am appalled at the modern apprentice who comes to you qualified, but without any practical experience of pharmaceutical work. The training has become too academic. My company includes business training in the curriculum adopted by its own apprentices. I am in favour of it.

MR. WARD: The syllabus is overcrowded with detail and should be re-cast; omit details given in textbooks and concentrate on fundamentals.

MISS SHEPPICK: With the modern trend in prescribing, pharmacognosy could be dropped. Business training is essential in any branch of pharmacy.

In order to cultivate a closer relationship between manufacturing, wholesale, retail and hospital pharmacy, would it not be possible to exchange personnel for a short period?

MR. WARD: It is a good idea in theory as it would give pharmacists a wider perspective and understanding of their colleagues' problems.

MR. HARDING: It would be good as part of the apprentice's training.

MISS SHEPPICK: It should follow immediately after qualification and should provide for six months' experience in each phase of pharmacy.

MR. JAMES: It is impossible to put into practice.

The dispensing service in pharmacies, hospitals and doctors' surgeries has now been largely nationalised. Only the work done by the pharmacist in retail pharmacy is open to inspection and test. Does the team think that all dispensing should be subject to the same supervision?

MR. JAMES: Certainly, the discrimination against the pharmacist contractor is unjust.

MR. WARD: Testing should be scrapped. It is anomalous that only one section should be tested.

MISS SHEPPICK: All dispensing should be tested. All dispensers are liable to make mistakes.

MR. HARDING: If testing is suitable for one section it should be applied to all who dispense medicines.

MR. JAMES: The public should have safeguards.

For many generations pharmacists have manufactured and sold hair lotions and tonics that have had considerable success in maintaining the growth of hair on their clients' scalps. It is noticeable that many pharmacists are nevertheless unable to maintain an adequate covering on their scalps. Can the team suggest the reason(s) for pharmacists becoming bald prematurely?

MR. WARD: The customer has faith in a hair tonic; the chemist knows they are no good.

MR. HARDING: The percentage of bald pharmacists is no greater than in other occupations.

If the team were asked to formulate a scheme for compensation to traders in the event of purchase tax being discontinued, how would they tackle the problem?

MISS SHEPPICK suggested a rebate on income tax.

MR. WARD: Compensation should be based on a valuation of stocks held on a given date.

MR. JAMES: Twelve months' notice should be given and pharmacists should keep all invoices so that tax could be estimated.

Should customers be asked to donate money to the Society's Benevolent Fund by means of collecting boxes placed on shop counters?

All members of the team agreed that the Benevolent Fund was the concern of pharmacists only but members were to be encouraged to have a weighing machine box for the fund.

The report of the British productivity team which visited the U.S.A. in 1952 suggested that pharmacy in the U.S.A. is far more remunerative than in the United Kingdom. Does the team consider that British pharmacy would benefit by the inclusion of soda fountains, a cigar department, etc.?

MR. WARD: No, that is against the tendency in this country.

MR. HARDING: Practise real pharmacy and you do more of it. My company is separating pharmacies from other departments. In the branches where that had already been done, the results are astounding.

MR. JAMES disagreed with the previous speakers. He suggested that provided a pharmacist gave an adequate pharmaceutical service, he was perfectly justified in adding other departments if he wished.

Self-service

Does the team consider that the public interest would be served by the further introduction of self-service pharmaceutical departments in busy pharmacies?

MR. JAMES: It is up to the owner of a business but good on the whole.

MISS SHEPPICK: Such a feature is not at all suitable for pharmacy. The public are really very ignorant of the uses of pharmaceutical products. They might buy unsuitable or dangerous products.

MR. WARD: Public interest would not be served. The pharmacist should always be available when pharmaceutical products are being sold as the client generally needs his advice.

In view of the fact that sub-postmensters have been granted a fee of 1d., to 1½d. per form for the act of refunding the shilling to old age pensioners, etc., is the team of the opinion that an immediate claim should be made to the Minister of Health for a corresponding fee to be paid to the pharmacist for the time involved in collecting the shilling levy and making out the original claim form receipt?

MR. JAMES: The time for refunding the shilling is estimated at eighteen seconds. It must take the pharmacist at least three minutes to collect the money and make out the receipt.

THE CHAIRMAN: A claim has already been made.

CHEMISTS IN THE FLOODED AREAS

CHEERFULNESS and courage in the face of loss and uncertain business prospects was the general spirit of chemists who had been affected by the sea floods which inundated much of the East coast and Thames estuary on the night of January 31 (*C. & D.*, pp. 121-22).

Mr. A. I. Burnett of The Parade, High Road, South Benfleet, Essex, stated that he had seen Mr. C. P. Venables and Mr. James (husband of Mrs. N. James, director of N. Quenby, Ltd., Canvey Island). All persons connected with pharmacy on the island were in good spirits. The shops had not been badly damaged, and were open for business for a few people on the island. The pharmacists intended to "see how things would go." Loss of business was probably going to be the greatest hardship.

Still Isolated

A telephone call was put through on February 10 to the pharmacy of Mr. J. E. French, 19 High Street, Sheerness, on the Isle of Sheppey, a district still isolated from the mainland except for emergency boat transport from Chatham. Mrs. M. L. Leslie, manageress, stated that no pharmacy in the town had been damaged, although the cellars of two of the pharmacies had been flooded through water seeping through.

At Gravesend all the pharmacies had escaped flooding although in Tilbury a number of pharmacies were damaged.

In the East End of London in the Kier Hardie estate the new pharmacy of D. Desmond & Co., Ltd., had had to be closed because of flood damage. The floods had caused all the drawers to jamb and a builder had been called in to break open the fittings. The main shop in Freemasons Road, Customs House, London, E.16, had also been flooded and stock for the company's five shops damaged.

Mr. Berry (secretary of the Southend-on-Sea Branch of the National Pharmaceutical Union) said that his Branch with the Local Branch of the Society and the Local Pharmaceutical Committee had circularised local pharmacists urging them to support generously the Pharmaceutical Society's appeal for relief for the flood victims. The pharmacies at Burnham-on-Crouch had escaped damage. Mr. H. W. Bartlett, pharmacist of the Southend-on-Sea hospital, said that a number of flood victims had been admitted.

Mr. W. C. STREET, Louth, Lincs, said that although it had not been possible to communicate with Mablethorpe by phone he had heard that Mr. B. N. D. Knowles had already opened one of his shops for an hour or so.

Mr. W. L. SUMMERFIELD, chief pharmacist at the West Norfolk and King's Lynn General Hospital, had been busy sorting out some drugs returned from the flooded and evacuated Isolation hospital (the pharmaceutical supplies of which are also his concern).

Mr. T. TOSH, the Southtown Pharmacy, Ltd., Great Yarmouth, had already cleared his shop and was in the

middle of salvaging his stock when he was phoned on February 10. Loss of business he thought was going to be his chief hardship. Customers were "dribbling back." He paid tribute to the helpfulness shown by his suppliers.

Mr. LESLIE HARRIS, who recently took over a shop at Felixstowe, sustained considerable damage when the sea swept in to town.

Mr. E. H. LAMBERT (assistant general manager of the European branch of

Parke, Davis & Co., Ltd.) was the first person to leave the Island of Sheppey after being stranded there for forty-eight hours.

The president of the Pharmaceutical Society has received the following reply to his message of sympathy to the president of the Royal Netherlands Pharmaceutical Association concerning the flood damage in Holland (*C. & D.*, February 7, p. 122): "I am profoundly grateful to you for your kind message. Please accept also our sympathy in the blows that Britain has had to suffer."

TOILET PREPARATIONS FEDERATION

AT the annual meeting of the Toilet Preparations Federation, Ltd., held in London on January 28, Mr. R. L. Demuth was elected *Chairman* and Messrs. L. Gardner and D. Collins *Vice-chairmen* for 1953-54. In introducing the annual report, the chairman said he thought most members were of the opinion that the details of exports which had been circulated were of great value and represented a reward for higher subscriptions. He thought legislation on deceptive containers was a possibility in the future. The Board of Trade had been in touch with the industry regarding the setting up of minimum standards of purity and thought it was a matter which the Federation would have to consider in the near future. Such standards could be of assistance to the industry, both at home and abroad. A ballot was taken on the election of non-sectional representatives to the council, and Messrs. R. L. Demuth, T. G. C. Hendy (Evans

Chemicals, Ltd.), J. W. Middlemiss and J. K. L. Wenham were returned. An enlarged secretariat had been set up, and it was up to members to make the best use of it. Members should consider the use of the secretariat as a medium for exchanges of all the important factors of business conduct, such as advertising, marketing, buying, etc. He thought the Federation should consider some form of associate membership. In his address Mr. Demuth said that "vigorous corporate industrial action was indivisible from the national interest." The Federation must consider what steps it could take to obtain sufficient bargaining power to ensure that the Government would accept consultation in matters concerning the industry, and should seek close association with related organisations (retailers, wholesalers, etc.). Approaches to the Government "must no longer be timorous submissions" but considered and reasoned recommendations.

THE WEEK IN PARLIAMENT

By a Member of the Press Gallery, House of Commons

MR. A. H. ALBU asked the Parliamentary Secretary to the Ministry of Works on February 3 what action had been taken arising out of the report of the Committee on Chemical Engineering Research.

MR. A. H. E. MOLSON replied that the Advisory Council for Scientific and Industrial Research had agreed that a central research organisation was needed. Representative industrial bodies had been consulted and were surveying the information available in industry and the resources in industry for further research. Until the survey was completed it would not be known whether industry would set up its own research association or whether some other means of meeting the requirement for research would be found.

Price Increases

MR. ARTHUR LEWIS asked the President of the Board of Trade on February 3 what percentage increase in price there had been on the cost of detergents and cleansers and toilet soaps during the year ended December 1952.

MR. H. G. STRAUSS (Parliamentary Secretary) replied: The following figures represented average change in the wholesale prices from December 1951 to December 1952. Detergents, 7 per cent. increase; toilet soap, 11 per

cent. increase. Glass containers, 4 per cent. increase.

Elastic Stockings Prescribed

MR. IAIN MACLEOD (Minister of Health) told MR. W. W. HAMILTON on February 6 that figures given for the supply of elastic stockings in a reply on December 18, 1952 (*C. & D.*, 1952, II, 861) referred only to the hospital service. It was estimated that the number of orders for elastic hosiery supplied on the prescription of general medical practitioners was at least ten times the number supplied through the hospital service.

£93 Prescription

MR. J. RANKIN (Lab., Tradeston) asked the Secretary for Scotland on February 10 if his attention had been called to a prescription issued to a National Health Service patient costing £93, details of which had been given him, and what was the therapeutic value of the prescription.

MR. J. STUART: Yes, sir. I understand that the therapeutic value of the preparation in question is open to doubt. The case has been referred to the Executive Council for consideration whether, in terms of the regulations, the cost involved was in excess of what was reasonably necessary for the adequate treatment of the patient.

PHARMACEUTICAL SERVICE COSTS

THE report of the Comptroller and Auditor General contained in the Civil Appropriation Accounts (Classes I-VIII) 1951-52 recently published deals with progress in negotiations that the Ministry of Health is holding with manufacturers of pharmaceutical preparations on prices of their products.

The Ministry, states the report, was picking out from about 8,000 proprietary medicines those most commonly used for price-reduction negotiations. Reductions had been obtained in the prices of two preparations and fifteen others were under consideration, but progress was slow. A further reduction had been obtained in the price of one of the two preparations and the price reductions secured are estimated to save about £22,000 for one and £136,000 for the other annually. The Ministry has opened discussions with four other manufacturers and can begin discussions with six more soon. It had been necessary to seek a decision on the possible use of compulsory powers to obtain information as to costs, and also to consider the effect which any price reductions might have on commercial research and the export trade. Until consideration of those aspects had been completed, negotiations with manufacturers could not be intensified. If the Health Councils' recommendation that satisfactory price arrangements shall be a condition of freedom to prescribe a proprietary is to be effective, it appears necessary, the report continues, that doctors shall

know which preparations conform to this condition. Progress so far made had not justified notifying practitioners of the proprietary preparations for which satisfactory price arrangements have been made.

The Health Departments estimated that, in 1950, 18 per cent. of the total number of prescriptions in England and Wales and 26 per cent. in Scotland were for proprietaries; the 18 per cent. in England and Wales accounted for 33.5 per cent., or nearly £12,000,000, of the total cost (about £35,000,000) of prescriptions in those countries. On the advice of the Health Councils the Departments since 1950 have been endeavouring to secure the co-operation of doctors to prevent excessive prescribing of expensive brands of proprietary drugs before attempting to impose positive restrictions. In 1950 they sent to all doctors in the Health Services a copy of the Report of the Joint Committee on which the Health Councils' advice was based. The percentage of proprietaries prescribed increased, however, to 23 per cent. in England and Wales and 30 per cent. in Scotland in 1951, and a sample analysis of prescriptions in England and Wales in April 1952 showed a further rise to 25.6 per cent. The report refers to the periodical notes on prescribing being issued to doctors and draws attention to an instance of unnecessarily expensive prescribing resulting in the expenditure of £400,000 in 1951 on a proprietary brand of drug

used for slimming. The same substance could have been prescribed under its standard name for £158,000. Tests carried out by the Comptroller suggest that savings of similar proportions might be obtained by prescribing standard rather than proprietary brands of other drugs and he therefore asked the Ministry whether they had given doctors any additional information on comparative costs of proprietaries and the equivalent standard preparations. The Ministry said that they had not yet done that but they contemplated preparing a price list on those lines for the use of practitioners. They stated, however, that the prices to be shown depend on the pack sizes and dosage quantities to be adopted.

The account of the Comptroller and Auditor General shows the following figures for the cost of pharmaceutical and related services during the year ending March 31, 1952. The amount by which that was more or less than the grant is shown in parentheses.

In England and Wales, general medical, dental, pharmaceutical and supplementary ophthalmic services expenditure was £8,375,709 (£259,709 excess). In England the pharmaceutical services cost £41,960,123 (£6,350,123 excess); and central purchase of medical supplies stores and equipment £2,799,813 (£1,308,186 less than grant). In Wales the pharmaceutical services cost £3,396,812 (£869,812 excess).

Copies of the report may be obtained from H.M. Stationery Office, price 14s. each.

IRISH HEALTH SERVICES BILL

THE Health Service for Eire as set out in the recently published Health Bill, 1952, does not include a pharmaceutical service analogous to that in Great Britain and Northern Ireland. The provision of medicines is specifically mentioned only in Section 13 which states that:—

"A health authority shall, in accordance with regulations, make available, without charge, for the persons specified in subsection (2) of this section, and their dependents, a general practitioner medical and surgical service, medicines, ophthalmic and dental treatment and medical, surgical and dental appliances."

The persons eligible under subsection (2) are those "who are unable to provide by their own industry or other lawful means" such services for themselves or their dependents. In effect the only persons who will receive free medical treatment and medicines will be the existing Public Assistance class described under the Bill as "The Lower income group." In the original White Paper the "middle income group" which included people with an income of less than £600 a year or farmers with a valuation of less than £50, were to get hospital and specialist services free. Now they can only receive those services free if they can show, to the satisfaction of the Health Authority, that they cannot pay. Where people in that group can pay, e.g., single men earning up to £600, the Health Authority can fix a charge up to a maximum of £2 2s. a week. Many people in the middle income group may receive specialist treatment free but must provide their own medicines. Since specialist treatment will be free for many the assumption is that such people can more readily pay for their medicines at their chemists. Under the White Paper, maternity service benefits were to be free for all, but the Bill confines those to the Public Assistance class, and to only those within the middle income group who cannot afford to pay. Otherwise maternity services may be obtained within the

middle income group or above it at a cost of £1 a year for a period to be determined by regulation. The provision under which a Public Assistance maternity patient may select a doctor, other than the dispensary doctor, will provide that such doctor shall receive a capitation fee including the cost of providing medicines and sundries to the mother. Until the regulation is framed and published it is impossible to say how such provision will work in practice.

The fear of abuse has been expressed to the Minister for Health by the deputation from the Pharmaceutical Society of Ireland. The scheme influences the doctor to become the stockist rather than send the business to the chemist. The opportunity of persons who were not in the lower income group to obtain nutrients and baby foods from child welfare clinics free will be ended by insistence that only persons holding a Public Assistance card will be given free supplies. Under Section 25 power is given to a health authority to require a declaration as to means and severe penalties for making false statements are laid down. The miscellaneous provisions of the Bill includes a section which gives the Minister for Health power to make regulations for "(a) the prevention of danger to the health of persons occupied in the use of radioactive substances or irradiating apparatus." Another section gives the Minister power to make regulations for the prohibition, or control of use in the destruction of rats and mice, of substances containing live cultures of organisms pathogenic to man. Section 56 provides that the Minister, after consultation with the Minister for Agriculture, may by Order declare that all the uses of a specified fumigant shall be restricted.

TEXT OF THE PHARMACY BILL

THE Pharmacy Bill introduced into the House of Commons by Mr. John Hall, M.P. (see *C. & D.*, 1952, II, 717), and due for a second reading on February 27, was published on February 11 (H.M. Stationery Office, price sixpence). The Bill sets out "to amend the law relating to pharmacy and to provide for consequential changes."

The principal clauses in the Bill are:—

CLAUSE 1.—(1) The register of chemists and druggists directed to be kept by section ten of the Pharmacy Act, 1868, shall cease to be kept, and (subject to the following provisions of this Act) so much of the Pharmacy and Poisons Acts, 1852 to 1941, as relates to the registration of persons as chemists and druggists, or to persons so registered, shall cease to have effect.

(2) The provisions of the First Schedule to this Act shall have effect for securing the registration as pharmaceutical chemists or persons who immediately before the coming into operation of this section were registered or entitled to be registered as chemists and druggists, and for other purposes consequential on the provisions of this section.

CLAUSE 2.—(1) Subject to the provisions of this section, examiners of the Pharmaceutical Society for the purposes of section eight of the Pharmacy Act, 1852, shall be appointed by the Society's Council.

(2) The following provisions of the Pharmacy Act, 1868:—

(a) so much of section six as relates to the powers of the Privy Council in respect of the appointment of examiners and the conduct of examinations; and

(b) section seven so far as it relates to fees payable on examinations,

shall apply to examinations held for the purposes of the Pharmacy Act, 1852, as they applied, before the coming into operation of section one of this Act, to examinations held under the said Act of 1868.

Keeping of Register

CLAUSE 3.—(1) The register of pharmaceutical chemists kept under section ten of the Pharmacy Act, 1852, shall be kept in such form and manner, and the annual registers of pharmaceutical chemists published under section thirteen of the Pharmacy Act, 1868, shall be prepared in such form as may be prescribed by byelaws.

(2) Sections ten and twelve of the Pharmacy Act, 1868 (which relate to the keeping of the register of chemists and druggists under that Act) shall apply (subject to provisions) to the register of pharmaceutical chemists and to persons entitled to be registered therein as they applied, before the coming into operation of section one of this Act, to the register of chemists and druggists and to persons entitled or authorised to be registered under that Act.

CLAUSE 4.—(1) The following paragraph shall be substituted for paragraph (a) of section four of the Poisons and Pharmacy Act, 1908 (which extends the powers of the Council to make byelaws with respect to examinations and registration):—

"(a) Providing that no certificate referred to in section eight or nine of the Pharmacy Act, 1852, shall be granted to any person unless such person produces evidence satisfactory to the Council of the Society that he has received a sufficient practical training in the subjects of the examination;".

(2) The following paragraphs shall be substituted for paragraph (c) of the said section four:—

"(c) Requiring persons desirous of presenting themselves for examination under the Pharmacy Act, 1852, to produce evidence satisfactory to the Council of the Society that they have received a sufficient general education;

(d) Providing for periods of time and courses of study in connection with the examination for the purposes of the Pharmacy Act, 1852, and dividing such examination into two or more parts."

CLAUSE 5.—(1) The power of the Council to make byelaws under section two of the Pharmacy Act, 1852, shall include power to make byelaws as to the registration as pharmaceutical chemists of persons holding or having held a degree granted in respect of pharmacy by any university in the United Kingdom, providing for their registration (subject to such conditions as to character and otherwise as may be prescribed by the byelaws) either—

(a) without examination, and without satisfying any requirements to which they would be subject apart from this section under byelaws made by virtue of section four of the Poisons and Pharmacy Act, 1908; or

(b) subject to requirements as to examination, or to any such requirements as aforesaid, relaxed as compared with those to which they would be subject apart from this section.

(2) Any byelaws made by virtue of this section may include provision requiring the payment, as a condition of registration, of such fee as may be prescribed by the said byelaws.

CLAUSE 6.—(1) The Council may, out of the property of the Society and out of any property for the time being comprised in the Benevolent Fund established in pursuance of the Charter of the Society, as amended by section twenty-two of the Pharmacy Act, 1868, make provision for such purposes relating to the relief of distressed persons, being—

(a) members of the Society; (b) persons who at any time have been such members or have been registered as pharmaceutical chemists or as chemists and druggists; (c) widows, orphans or other dependants of deceased persons who were at any time members of the Society or registered as aforesaid; or (d) students of the Society,

as the Council may, subject to byelaws, determine.

(2) Section twenty-two of the Pharmacy Act, 1868, shall cease to have effect.

CLAUSE 7. The following provisions of the Pharmacy and Poisons Acts, 1852 to 1941, shall cease to have effect:—

(a) sections five and seven of the Pharmacy Act, 1852 (which provide for the maintenance of a register of members of the Society and the issue of certificates of inclusion in that register);

(b) so much of that Act as relates to the examination and certification of students, apprentices or assistants;

(c) section eleven of that Act (which prohibits the registration in the register of pharmaceutical chemists of members of the medical profession);

(d) the whole of the Pharmacy Acts Amendment Act, 1898 (which relates to the registration and election of persons as student-associates of the Society, the retirement of the members of the Council and the election of officers of the Society);

(e) so much of subsection (2) of section one of the Pharmacy and Poisons Act, 1933, as provides that the retention fee therein referred to shall not exceed two pounds.

Charter Confirmed

CLAUSE 8. The Charter of the Society, except so far as amended or repealed by this Act or any previous enactment, is hereby confirmed; but nothing in this section affects any power exercisable by Her Majesty by virtue of Her Royal Prerogative in relation to that Charter.

CLAUSE 11.—(1) This Act may be cited as the Pharmacy Act, 1953.

(2) The Act shall come into operation on such day as Her Majesty may by Order in Council appoint, and different days may be so appointed for different provisions.

(3) This Act shall not extend to Northern Ireland.

The First Schedule deals with the transfer of persons registered as chemists and druggists to the Register of Pharmaceutical Chemists, Schedule I, and the Second Schedule with consequential amendments and repeals.



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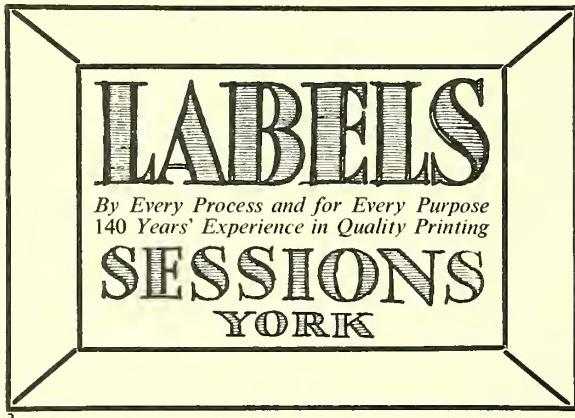
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The CHEMIST AND DRUGGIST

For Retailer, Wholesaler and Manufacturer

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TELEGRAMS: "CHEMICUS ESTRAND, LONDON"

Horticulture in the Pharmacy

THE 1939-45 war threw into sharp relief the need to increase food production to a maximum, and stimulated research into chemical methods of crop protection. The post-war years have seen no diminution of that need and the study of horticultural chemistry has progressed to produce a formidable number of new compounds and growing techniques, some of which, if misapplied, are dangerous. In this quickly expanding field, business for the chemist engaged in retail trade is waiting to be done, as a contributor on another page emphasises from personal experience. In view of the advantages which a horticultural practice holds, it is remarkable how few "private" chemists have devoted any attention to it. Apathy towards this field is driving custom that rightly belongs to the chemist to other channels, or within pharmacy to the multiples. Yet the pharmacist is the appropriate supplier, first because the products affected are chemicals, secondly because, with his knowledge of chemistry and biology he is in a unique position in the matter of giving advice, with the result that many people would prefer to buy the products from him; and thirdly, because he is the only retailer permitted to sell certain of the products. A horticultural chemist can put his poisons book to wide and frequent use, and it is notable that our contributor has been congratulated in that respect by an inspector of the Pharmaceutical Society. While horticultural chemistry requires the possession of adequate stockrooms, and some of the sales are of articles heavier than average for a pharmacy (although they are quickly made) the trade is profitable, does not involve purchase tax, is professional and personal, and is at its height when prescriptions are fewest. It increases goodwill, and often links with one of the pharmacist's own hobbies. A thorough grasp of the technicalities is, however, necessary, if only to warn against potential dangers or the limitations of some of the compounds, and that is recognised in France, for example, where fourth-year students and post-graduate courses in "phytopharmacy" are provided by the Faculty of Pharmacy of the University of Paris. Articles in this issue by specialists on aspects of horticultural research are intended to direct attention on this nationally and pharmaceutically important field of applied chemistry. The technical articles stress formulation and use of the products. They deal with the two main aspects of horticultural chemistry—crop protection and growth promotion, and are supplemented by notes on soil pH determinations, etc., a description of a research organisation, and some useful formulas, etc.

The New Irish Health Bill

WHEN the earlier proposals for a Health Bill for the Irish Republic were mooted, the pharmaceutical profession there had every reason to feel perturbed. The proposals were not framed along the lines of the National Health Service in Great Britain, in which pharmacists were officially recognised as an essential and integral part of the Service.

Fortunately, with a change of Government the earlier proposals, which envisaged clinics issuing medicinal supplies to all and sundry, were dropped and the present Government set to work upon its own scheme. The first indication of what that might be was set out in a White Paper (*C. & D.*, 1952, II, 782), some features of which were not acceptable to Irish pharmacists. But even the White Paper has been amended, and the final proposals, as now set out in the Health Bill, 1952 (p. 154) are less objectionable to the profession as a whole. That is about the most can be said in favour of the measure.

It was obvious from the beginning that an agricultural country like Ireland, with a population in the Republic of less than four million people, could not afford a National Health scheme on lines which are proving so costly in Britain. The new Bill, if it passes the Legislature in its present form, will not impinge to the extent at first feared—if at all—upon the business which the retail pharmacist should receive from persons within what is termed in the Bill the "middle income group." There is no question now of free medicines for that class, and free institutional and specialist services are only provided where it is established that they cannot pay for them. The lower-income group, or public-assistance class, will continue to receive free medicines as heretofore through the dispensaries or clinics. The Bill gives no indication of how the provision under which public-assistance maternity patients can choose their own doctor will work in regard to medicinal supplies. The doctor in this case is to be paid an omnibus capitation fee which is to cover the cost of medicines or sundries supplied to the public-assistance maternity patient. The deputation from the Council of the Pharmaceutical Society of Ireland, which saw the Minister for Health, very properly stressed the danger of abuses arising from such an unsatisfactory arrangement. If such a provision were to encourage doctors to become stockists of medicines and sundries for maternity patients it would be very unfair to practising pharmaceutical chemists, and an encroachment on their legitimate sphere. To what extent the provision under Section 16 of the Bill, under which infant welfare services are to be provided for children up to the age of six weeks, will militate against the normal business done by Irish pharmacists in the sale of nutrients, baby foods, etc., for infants up to that age remains to be seen. In the main, however, the Bill, by its omission of pharmaceutical services for the middle and higher income groups, seems to assure a position that is very much "as you were," and for this, no doubt, Irish pharmacists will feel relieved. Unless the Irish Government was prepared to avail itself of its retail pharmacies to the same extent they are incorporated in the scheme in Britain, the solution desired by the profession lay in maintaining the existing position, and the new Health Bill happily sets out to do that.

CORRESPONDENCE

Letters when received must bear the name and address of the sender, not necessarily for publication. The Editor does not hold himself responsible for the views expressed.

PHARMACEUTICAL PRODUCTS IN TUBES

SIR.—My Executive Committee is informed that, when dispensing many pharmaceutical products which are packed in tubes, pharmacists experience considerable difficulty in stripping them for relabelling, which is required of them both in private and Health Service dispensing. It is felt that much time and trouble would be saved if manufacturers would label such products in a less permanent way, that is, with an easily detachable label, or alternatively, have most of the descriptive matter printed on the outer container.

BELFAST

A. E. STRACHAN, Secretary,
ULSTER CHEMISTS' ASSOCIATION

"PROPER DUTIES" OF PHARMACISTS

SIR.—A doctor friend of mine recently volunteered the statement that "There are too many chemists engaged in managing stores—selling all sorts of mixed merchandise, who could be far more usefully employed in doing their proper duties—i.e., dispensing prescriptions for the National Health Services." Is this the general view held by doctors? It would be interesting to know if it is shared by members of the medical profession within the Ministry of Health, and by pharmacists, too, in the National Health Service. Surely the whole idea behind the high standards in pharmacy advocated by the Pharmaceutical Society is directed towards professional status: pharmacy for pharmacists, and pharmacists for full-time duties in pharmacy.

OLD-TIME PHARMACIST

METRIC MEASURING FLASKS

SIR.—As the largest producers of volumetric laboratory glassware, and as pioneers of this branch of the industry in Great Britain, we receive from time to time inquiries from laboratories at home and abroad for 3-, 5-, and 10-litre sizes. (The maximum capacity generally available is only 2 litres.) Inquiries are never for more than one or two of the larger sizes, but we suspect there may be a much larger potential demand. If we could hear from users or laboratory furnishers who feel they have a need for these exceptionally large capacity measuring flasks, then it will enable us to assess the approximate overall requirements. If that would then warrant the not inconsiderable expenditure in laying down the cost of the moulds, we would seriously consider making those sizes available. The greater the demand for the flasks, the greater the possibility of lowering the final cost by spreading the initial capital expenditure on the moulds.

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LIQUIDS BY METRIC MEASURE

SIR.—Your correspondent R. W. Hill (*C. & D.*, January 31, p. 111) states that it is necessary for British exporters of drugs to supply them in the metric system, but in fact that has always been done. To customers in countries using the metric system British manufacturers have supplied their galenicals by metric weight or metric volume as ordered by the customer. Now, if the recommendations of the Association of British Pharmaceutical Industry are carried out, they must be supplied by volume and not by weight. Will that help our export trade? In home sales it seems illogical to sell at one end of the scale (i.e., by wholesale) in metric and at the other end (namely by retail) in avoirdupois. Conversion of weights and prices must take place at one end of the scale, and will obviously fall on the retailer. Is it really suggested that there is anything wrong with the old system under which all the purchasers of galenicals are supplied with their galenicals in the weights or measures they desire, and would it not be interesting to know how many of the firms who specialise in galenicals, apart from those who specialise in ethical preparations, are really in favour of the new recommendations?

HITCHIN

F. M. TOOKEY

PAYMENTS TO A COUNTRY CHEMIST

SIR.—Mr. Noble's letter (*C. & D.*, February 7, p. 135) is misleading. In the first place his offer was to price fully such prescriptions—from September 1950 to January 1952—as were available. The first available date seems to be April 1951, which is understandable, but why omit May, June and August, which months show figures much less favourable to me, as the appended list shows?

	No. of Scripts	Drug Payment
April 1951	729	£95
May	785	£90
June	814	£93
August	743	£89

(i.e., a greater number of scripts dispensed produced less in payment). Secondly, it will be noted that only seven months were priced out of the seventeen that were challenged, which is not a fair proportion. The figures for the last seven months (September 1951 to March 1952) have been much more in accordance with my own figures, in spite of my supposedly fallacious reasoning, and are the most satisfactory consecutive payments I have so far received. I note that Mr. Noble does not approve of averaging and trust he will endeavour to speed up pricing in full when his duties allow him the opportunity.

GREAT MISSSENDEN

H. R. THURGAR

EXCIPIENTS WITH CALCIFEROL

SIR.—Recently at University College Hospital we have encountered difficulties in interpreting the results of therapy in patients who have been given high doses of calciferol for post-operative tetany and "vitamin-resistant" osteomalacia. Five patients, under two different physicians at two different clinics, who were well controlled as to symptoms and blood calcium levels, developed within about one month of each other signs of calciferol poisoning with rises of blood calcium levels to 12-15 mgm. per 100 mils. As this had been until then an unusual occurrence, inquiries were made as to the source and strength of the calciferol tablets, and the records were studied, but without any clue being discovered as to the possible explanation of this coincidence. Our reading of the literature leads us to believe that similar onset of calciferol toxicity has arisen with occasional cases treated elsewhere.

A recent experience might have some bearing on this matter and is quoted here as of possible help to others who use calciferol in high dosage. A patient with osteomalacia was given for one week a dosage of 500,000 units of pure calciferol in tablet form. He was in our metabolic ward, and for various reasons his calcium balance was being determined whilst he was on an almost calcium-free diet. To our surprise his stools contained many small gritty particles and on analysis were found to contain an average of over 1 gm. per day of calcium. Further investigation showed that each calciferol tablet contained about 100 mgm. of calcium and 40 mgm. of phosphorus per 50,000-unit tablet. These results suggest that calcium phosphate had been used as a diluent in preparing the tablets and, as the oral intake was all known, there seems no doubt that the gritty particles consisted of unabsorbed calciferol tablets. There was nothing on the label to indicate the nature of the diluting material. Several possibilities now occur to us to explain previous irregularities in the action of calciferol given in tablet form. The dose may be largely unabsorbed, depending on the pressure used in the tablet machine and on various factors in the patient. Absorption may vary from batch to batch of material. Finally, the manufacturers may or may not be compounding the tablets with varying quantities of calcium salts, substances which profoundly modify the activity of simultaneously fed calciferol.

Calcium phosphate is commonly used as an inert diluent for pharmaceutical preparations and is specified for this purpose in dry extract of nux vomica of the British Pharmacopoeia. Calcium stearate is sometimes used as a lubricating agent in the preparation of tablets. It is obvious that such substances are not pharmacologically inert in circumstances where high dosage of calciferol is required. We recommend the use of pure calciferol with lactose as dilu-

ent in the preparation of high-potency calciferol tablets and are now preparing them in this way. Such an experience makes it obvious that the use of metallic salts as diluents or lubricating agents in formulating tablets may lead to unexpected results, and care must be taken in the choice of such excipients. It may be advisable that their presence should be stated on the label of containers of tablets, just as it is required by the Pharmacopoeia to declare the name and strength of any bactericide added to injections.

UNIVERSITY COLLEGE C. E. DENT, PH.D., M.D., M.R.C.P.
HOSPITAL, W. R. TROTTER, D.M., M.R.C.P.
LONDON, W.C.1 T. D. WHITTET, B.Sc., PH.C., A.R.I.C.

CONGRATULATIONS

JUST a note to congratulate you on the delightful new form of THE CHEMIST AND DRUGGIST.—J.V.H.

MAY I add my congratulations on the new-sized C. & D.? It really is a winner.—C.H.P.

CONGRATULATIONS on your new presentation of THE CHEMIST AND DRUGGIST.—H. J. C.

I LIKE the new form and text of the C. & D. very much indeed.—H. D. P.

CONGRATULATIONS on the C. & D. for January 10. It is a credit to you.—G.H.B.

THE CHEMIST AND DRUGGIST has become so much more of a journal since regaining its former size.—J. J. C.

BY the way, add my applause to all the others at the improved presentation of the C. & D. I like it immensely.—F.K.B.

I WOULD like to take the opportunity of expressing appreciation of the many interesting and helpful features that have appeared in the C. & D. during the period in which I have received it.—W.H.

WE are writing to congratulate you on the appearance and contents of THE CHEMIST AND DRUGGIST in its new size. It is even more attractive than it used to be and we are sure that your many readers will have welcomed the change.—J. W. S.

PLEASE forward a copy of the C. & D. Refresher Course for Pharmacists, for which I enclose cheque for 3s. 2d. This, I would like to say, is very good value, I have not, unfortunately, been able to keep all the articles and think they are well worth the republication as a book.—J.S.A.

I SHOULD like to express my appreciation of all the trouble you have taken in sending me all the back numbers of "Guide to New Medicaments." I have always found this feature most helpful but now, supplied as it is in such a convenient form for filing, I feel that this service alone is worth the subscription.—S.P.P.

A PHARMACIST'S ANTHOLOGY

AWHILE after this the good Pantagruel fell sick and had such an obstruction in his stomach, that he could neither eat nor drink . . . to tell you, after what manner he was cured of his principal disease, I let pass how for a minorative, or gentle potion, he took four hundred pound weight of colophoniac scammony, six score and eighteen cart loads of cassia, an eleven thousand and nine hundred pound weight of rhubarb, besides other confused jumbles of sundry drugs. You must understand, that by the advice of the physicians it was ordained, that what did offend his stomach should be taken away; and, therefore, they made seventeen great balls of copper, each whereof was bigger than that which is to be seen on the top of St. Peter's needle at Rome. . . . Into one of them entered one of his men, carrying a lantern and a torch lighted, and so Pantagruel swallowed him down like a little pill. Into seven others went seven country fellows, having every one of them a shovel on his neck. Into nine others entered nine wood-carriers, having each of them a basket hung at his neck, and so were they swallowed down like pills. When they were in his stomach . . . they found a montjoy or heap of ordure and filth. Then fell the pioneers to work to dig it up. . . . By this means was he healed and brought into his former state and convalescence; and of these brazen pills, or rather copper balls, you have one at Orleans, upon the steeple of the Holy Cross Church.—From "Pantagruel," by François Rabelais.

Onward from Galen

THE results of a fifteen-nation inter-sessional committee meeting of the General Agreement on Tariffs and Trade (G.A.T.T.) which opened in Geneva on February 2, may be of great importance to Great Britain and the Commonwealth. The committee is expected to discuss—and perhaps arrive at a decision on—the timing and conditions of entry of Japan into the organisation. Great Britain is reported to be planning to ask for special trade restrictions on Japan if she is admitted to G.A.T.T., pointing out that the country has a totally different cost structure to that of the other members. But the United States is understood to favour admitting Japan under the most favourable conditions and as soon as possible. Britain will insist that the arrangements for international supervision by G.A.T.T. are reinforced and this may mean changing the organisation's rules—a feat which can only be accomplished by the full session, the next meeting of which is in the autumn.



A JOINT appeal for the swift abolition of the apothecaries' and imperial units is made in the *British Medical Journal*, February 7, pp. 327-28 by Mr. T. D. Whittet, chief pharmacist, University College Hospital, and Mr. W. C. W. Nixon, surgeon. They call for an overnight change and in support quote an analogy of an overnight change of nautical helm orders that took place some years ago. Critics had predicted dire consequences of the sudden change, whereas it took place without mishap or confusion. To foster the increasing use of English textbooks of medicine and pharmacy in Continental countries, the authors claim that it is important that the metric system should be used in those books. The multiplicity of systems leads to confusion and serious errors they say, and they urge the General Medical Council, British Medical Association, Pharmaceutical Society, and examining bodies to use their influence to implement the change.



THE recently launched bulletin of the Western Pharmacists' Association of London (the second issue of which has just come to hand) should prove of considerable value in welding more strongly the Association's large membership. In addition to carrying news of coming events the *Western Bulletin* uses its editorial influence to improve attendance at meetings. It draws attention to the comfort and amenities of the Association's new venue of meetings. (Previously it was the house of the Pharmaceutical Society, and the change already has had a salutary effect on attendance.) To encourage early attendance it emphasises that refreshments are provided before the meetings. Mr. D. R. Evans is the subject of a personality paragraph, No. 2 in the series entitled "Western Window."

ADVICE TO GROWERS

FREE technical advice to growers and farmers on horticultural and agricultural matters is given by the Ministry of Agriculture and Fisheries through its National Agricultural Advisory Service. The local district advisory officer of the Ministry, the name and address of whom can be obtained from the Ministry's County Agricultural Officer, acts as a link between growers and the Advisory Service. The Ministry's Plant Pathological Laboratory, Harpenden, Herts is the central station for collecting and disseminating information on pests and diseases of crop plants. A number of leaflets and books dealing with agricultural and horticultural problems published by the Ministry are listed in the Ministry's Sectional List No. 1, copies of which are obtainable free of charge from H.M. Stationery Office. The Ministry also publishes a list of approved crop-protection products (copies free from 3 Whitehall Place, S.W.1).

The British Standards Institution, 24 Victoria Street, London, S.W.1, has drawn up a list of recommended common names for pest control products (B.S. 1831, Part 1, 1952) (copies, from the Institution, price 2s. 6d. each).

How a suburban chemist set about building up a HORTICULTURAL DEPARTMENT

with some practical advice to those who think of following suit

BY W. O. AYERS

A DEPARTMENT for the sale of horticultural chemicals at our suburban pharmacy in Nottingham, set up in the early months of the 1939-45 war to offset the anticipated loss of toilet trade, has become an integral part of the business, useful to customers and interesting and profitable to ourselves.

Trade Waiting to be Done

Much potential horticultural business is waiting to be done by suburban pharmacies, particularly in districts like our own, where customers live in houses with front and back gardens of a minimum area of 100 sq. yd.). Ceaseless propaganda is carried on, on our behalf, by the newspapers, weekly magazines, and by wireless programmes. Customers are grateful to be able to buy, close to their homes, articles that are often bulky and heavy. Most important of all, the pharmacist, by virtue of his training, is, of all persons in business, best able to understand the theory and practice of horticulture and to give accurate, reliable information and advice to his customers. The sale of a class of goods consisting mainly of chemical substances is particularly appropriate to retail chemists. It must be admitted, however, that the addition of large bags of fertiliser to a counter already crowded with an assortment of other lines is not likely to enhance the appearance of the shop. The solution lies in segregating horticulture products in both window and shop. In our business we segregate every type of product we handle and are convinced of the practical value of that policy. We have, then, a section of the counter, with showcase behind, and a section of the window, as a permanent horticultural "department." Another necessity is good storage space with strong shelves or racks to take heavy articles; and one might add good stock-keeping also, because an obvious drawback to horticultural chemicals is that some are hygroscopic and hence do not store well. On the other hand the rate of profit is high, and no purchase tax is chargeable.

Many of the regular selling lines are mentioned in a "horticultural chemists' calendar" (on p. 160), and some of them are now considered in greater detail, but it has to be pointed out that customers do not always buy according to the calendar. A fine Saturday morning at any time of the year will sell more items than the right date upon a calendar.

HYDRATED LIME.—Hydrated lime is far and away the biggest seller all the year round, ready packed in 7 and 14-lb. bags with an occasional 56-lb. purchase. Knowledgeable gardeners sometimes ask us to test a sample of their garden soil for its acidity. That is easily done with the B.D.H. soil-testing outfit (see p. 171) and, if the size of the garden is known, the right quantity of lime can be "prescribed."

SUPERPHOSPHATE OF LIME AND SULPHATE OF AMMONIA.—These inorganic fertilisers can be obtained ready packed in bags of 7 lb. and upwards but we do not find the prices competitive enough in our district so we buy hundredweights at a time and weigh up into 3½, 7 and 14-lb. bags. That, of course, means more trouble in handling, but prices and sizes are right for our customers, and gross profit is enhanced. With practice and staff teamwork the job is quickly and cleanly done. The percentage of potash, phosphate and/or nitrogen must appear on the label of all fertilisers offered ready packed for sale. Both the above chemicals sell freely from March to the end of August, with occasional quantities at other times.

SULPHATE OF POTASH.—Sulphate of potash sells freely in 1 and 3½-lb., occasionally in 7 and 14-lb. sizes. With sulphate of ammonia and superphosphate of lime it forms a "complete" fertiliser, supplying a plant's main chemical requirements of phosphorus, nitrogen and potassium. Customers often bring their own recipe for these items, sometimes in unnecessarily awkward quantities. We do not attempt to mix those recipes but sell the nearest equivalent in our ready-packed quantities. 14 lb. of "super," 7 lb. of sulphate of ammonia, and 3½ lb. of sulphate of potash are suitable average quantities.

NITRATE OF SODA.—Commercial soda nitrate is very hygroscopic. It sells in 1 and 3½-lb. packs and usually opens the season, as it is a stimulant for spring cabbage.

BONE MEAL.—Bone meal is the biggest seller of the organic fertilisers—in 3½, 7 and 14-lb. bags, and occasionally in larger sizes. It sells freely seven or eight months of the year. Being only slowly soluble it is not much use for applying to growing crops, but should be dug in before planting or sowing.

DRIED BLOOD.—Dried blood is a popular plant stimulant selling freely during the summer months in 1 and 3½-lb. packs. The pharmacist will realise that it contains nitrogen but no phosphate or potash and that disappointing results may follow its use, especially with flowers and fruit, unless potash is also supplied.

PROPRIETARY FERTILISERS.—"National Grow-more" fertiliser is popular, selling in large quantities every spring. The next in popularity is a lawn fertiliser selling a little later in the year. Later still Sangral dried blood and Liquinure compete for popularity, with Tomorite to round off the season.

INSECTICIDES.—As spring gives place to high summer the sale of bulk fertilisers falls, and insecticides come into their own. They are legion, but the main items in our own business are powdered derris, liquid derris, liquid nicotine, a cyclohexane hexachloride ant killer, and a slug bait. All sell well but often one pest stimulates sales in excess of all the others. Last summer was an "ant" summer in this district, and I remember a "caterpillar" summer some years ago, when everything was bought and tried against those pests well on into the autumn. The pharmacist is the legitimate source of supply for liquid nicotine insecticide and we have always pushed the sale of this very effective product; the Pharmaceutical Society's inspector has congratulated us on really using our poison book to good advantage.

WEED KILLERS.—Chlorate of soda is now freely available again and is very effective when correctly used on paths and dormant land, while the selective weed killers for use on lawns are gaining in popularity each year. All weed killers can do much damage when wrongly used and members of the public often hold mistaken ideas about weeds and weed killing. We find it advisable to make tactful inquiries with every sale to make sure the customer understands the correct use and limitations of the products.

Study Necessary

When we first started to sell horticultural chemicals the writer read several comprehensive gardening books from the local library and took a popular gardening weekly for a year or two. With that background knowledge we have been able to tackle all questions that have arisen. We have tried to create a reputation for always knowing the answer to customers' horticultural problems.

It is February now, time to make sure that everything is on order for the new season. The horticultural window is filled with lime, bone meal and basic slag supported by aluminium sulphate (for blue hydrangeas blooms) and Cheshunt compound (easily prepared by the pharmacist

"secundum artem" and offered as freshly made). When the heavy winter dispensing is over the sale of fertilisers will have begun, and so on until November when the claims of "Christmas gifts" will once again fill all our window space for another month.

A HORTICULTURAL CHEMIST'S CALENDAR

In JANUARY display

BASIC SLAG, LIME, BONE MEAL, HOP MANURE	For winter digging (lime to be applied separately from any fertiliser).
TAR OIL WINTER WASH	
SUPERPHOSPHATE OF LIME CHESHUNT COMPOUND	

In FEBRUARY display

As January with the addition of ALUMINIUM SULPHATE	For starting to feed hydrangeas for blue blooms.
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In MARCH display

PETROLEUM OIL WASH THIOCYANATE WASH LIME SULPHUR WASH	For spraying fruit trees against capsid bug. For spraying fruit trees against red spider. For spraying cane fruits against cane spot.
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In APRIL display

LIME SULPHUR WASH	For spraying blackcurrants and gooseberries against mildew and big bug and for spraying apples and pears against scab.
RED LEAD	For dressing lawn seed.
TONK'S FERTILISER	As a top dressing for established rose trees.
LAWN FERTILISER	As a top dressing for lawns.
ALL COMPOUND AND SINGLE FERTILISERS	As a top dressing for growing plants as required.

In MAY display

FERTILISERS CALOMEL DUST	To continue top dressing ("little and often"). For applying to onion and cabbage seedlings to kill eggs of onion and cabbage fly.
DERRIS DUST AND SPRAY NICOTINE SPRAY SULPHUR	For use against early greenfly and caterpillars. For dusting onions and peas against mildew.

In JUNE display

LIME SULPHUR WASH	For use at summer strength on fruit trees against scab and mildew.
FERTILISERS, POWDER AND LIQUID DERRIS DUST INSECTICIDES	To continue top dressing as required. To protect raspberry blossom against grub. For continued use as required.

In JULY display

BORDEAUX AND BURGUNDY MIXTURES	For spraying potatoes and tomatoes against blight.
TETRACHLORETHANE COLLOIDAL COPPER AND SULPHUR SPRAYS	For fumigating against white fly under glass. Against black spot and mildew on roses.

In AUGUST display

METHYLATED SPIRITS	For brushing on apple trees against American blight.
FERTILISERS AND INSECTICIDES	For continued use as required.

In SEPTEMBER display

FRUIT-TREE BANDS FUNGICIDES	To trap winter moth on fruit trees. For use if required.
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In OCTOBER display

LIME, BONE MEAL MURIATE OF POTASH BASIC SLAG SULPHATE OF AMMONIA CALCIUM CYANAMIDE PROPRIETARY COMPOST MAKERS	For autumn digging of vacant ground. As a top dressing for established fruit trees. For compost heaps.
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In NOVEMBER display

LIME, BONE MEAL, ETC.	For continued use in autumn digging.
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In DECEMBER display

TAR OIL WINTER WASH	For spraying dormant fruit trees.
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Developments in and Formulation of CHEMICALS IN CROP PROTECTION

BY DE B. ASHWORTH, PH.D. (PLANT PATHOLOGICAL LABORATORY, HARPENDEN, HERTS)

SIR WILLIAM SLATER (secretary of the Agricultural Research Council) has estimated¹ that in 1947 the total losses incurred through agricultural pests and diseases in Great Britain amounted to many millions of £'s even after £10,000,000 had been spent on pest-control measures. Against this colossal loss of available food-stuffs must be placed an ever-increasing loss of agricultural land.

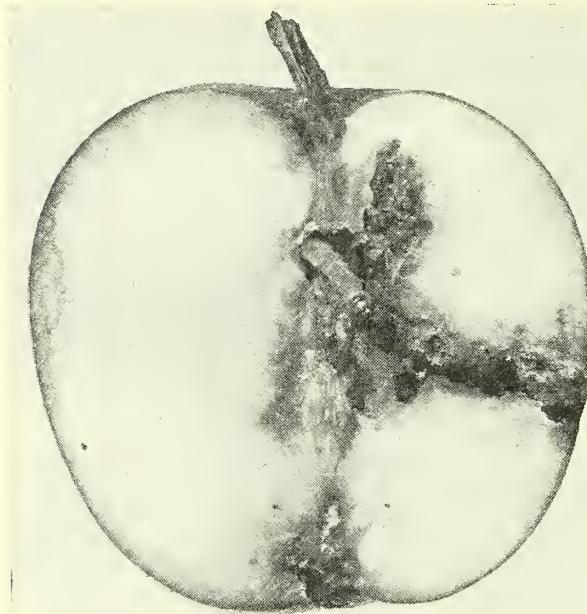


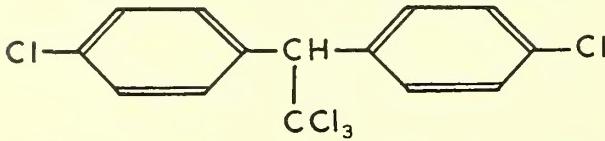
Fig. 1. Codling moth in an apple that was not sprayed with lead arsenate.

In England and Wales, for example, there is only 0.8 acre of land of all sorts per head of population.² This fact combined with a shortage of national resources to purchase foreign food and a still increasing population shows the need to make every effort to improve land productivity in Great Britain. One method of doing that is by the control of pests, diseases and weeds. This article discusses practical considerations entailed in selecting and using suitable products for given tasks.

Insecticides

1. Chlorinated hydrocarbons

DDT (1:1:1-trichloro-2:2 di (p-chlorophenyl)-ethane) owes its activity as an insecticide, according to Martin and Wain,



to the ability of the $=\text{CH}.\text{CCl}_3$ group to yield up hydrogen chloride *in situ* and there is a good deal of evidence to support that view. (Formula above.)

DDT is formulated to be sold as a 2-5 per cent. dust, an emulsion, a wettable powder, a miscible liquid or, together with a pyrotechnic mixture, as a smoke for use in greenhouses. For wet spraying I have a slight preference for the emulsion formulations as evaporation of solvent may occur from the miscible liquid type if the container

remains half empty for some time. Possible solvents and detail methods of formulation can be found in West and Campbell's latest book.³

DDT may be regarded as being comparatively safe to human beings and animals but perhaps the position has best been stated by Stammers and Whitfield⁴ as follows: "When DDT is used as an insecticide with reasonable intelligence and the precautions normal to the use of modern insecticides it is harmless to man and animals."

The chief application of DDT in the field is against various caterpillars on the cabbage family, or other plants. On apples and pears it is valuable in a concentration of 0.1 per cent. combined with dinitrocresol (DNC) petroleum oil just before bud burst and, in addition, at the green bud stage (0.05 per cent.) in combination with lime sulphur (2.5 per cent.). Other uses of DDT are on plums and cherries against caterpillar in late March, as a dust against nut weevil on nuts or against carrot fly. For greenhouse use DDT smokes are very convenient.

For control of codling moth on apples DDT sprays are effective in place of lead arsenate (late June). Unfortunately DDT cannot be generally recommended for application to apples at any stage after petal fall⁵ as it is likely to result in serious infestations by the fruit tree red spider mite owing to the wiping out of red spider predators.

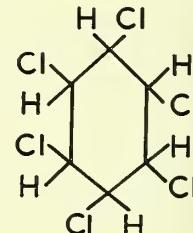
Little difficulty has arisen with DDT on account of its phytotoxicity but it should not be used on cucurbits (cucumbers, marrows, etc.). As a general rule it may be regarded as compatible with other pest control products while some idea of its importance will be appreciated from the 1951-52 estimated production of 85 million lb. of DDT in the U.S.A. for all purposes.

BHC

Of the various possible isomers of benzene hexachloride (BHC) having the structure below, the gamma isomer has been shown to have the greatest insecticidal properties. Consequently in recent years there has been a tendency to manufacture lindane, the name given to a product containing at least 99 per cent. of gamma BHC. Thus, in selecting a BHC, the gamma content should be carefully considered not only because of greater efficiency but because of the reduced risk of taint to crops.

BHC is formulated as a wettable powder, an emulsion, a dust, with an organo-mercurial as a valuable dry seed dressing for cereals and, finally, combined with a pyrotechnic mixture as a smoke for greenhouse use. In mammalian toxicity the gamma isomer of BHC is approximately a quarter as toxic as DDT and so when used with reasonable precautions may be regarded as a safe material.

The chief uses of the BHC dusts are against flea beetle, turnip beetle, cabbage-root fly (lindane best), mushroom fly, wireworm and asparagus beetle. When sprayed as a wettable powder it is very effective at the rate of 1 lb. of 50 per cent. powder per 100 gall. against sawfly. This spray is often combined with the normal 1 per cent. lime-sulphur apple-scab spray and applied just after petal fall. It is normally only necessary to spray for two consecutive years in order to wipe out sawfly. This is again a wise limitation since the fruit tree red spider predators seem to be wiped out by BHC just as they are with DDT. This spray is



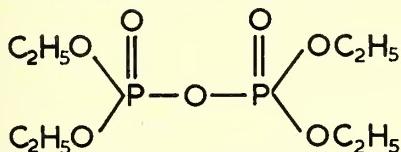
effective against strawberry aphids but commercial growers are tending to use systemic organo-phosphorus sprays for this purpose. On raspberries BHC is a useful insecticide against raspberry cane midge. The plants should be sprayed with 2 lb. of 50 per cent, BHC per 100 gall. just before flowering. There is little risk of phytotoxicity (i.e., toxicity to plants) with this material but there are risks of taint to crops planted on land which has previously been treated with BHC. Blackcurrants and potatoes are particularly liable to develop a musty flavour, harmless, but very noticeable to some palates. The risk with lindane preparations is much less than with commercial BHC and the amounts recommended on the labels of products approved by the Ministry of Agriculture⁶ may be regarded as normally safe. Estimated production in 1951-52 in U.S.A. based on 12 per cent. gamma material is 95 million lb. and so has exceeded DDT production.

2. Organo-phosphorus insecticides

Organo-phosphorus insecticides have been introduced since the war and are effective in dealing with aphid and other pests. Unfortunately, they are also extremely poisonous to mammals having a toxicity of a similar order to nicotine, but an effective antidote exists in atropine sulphate which may be administered orally in 1/50-gr. tablets every hour until a doctor arrives. Typical symptoms of poisoning are:—Sickness, headache, vomiting, tightness of the chest and contracted pupils or disturbance of vision. The danger that is not obvious when using these compounds is that the concentrate may enter through the skin (barrier creams should not be used) so that it is always wise when handling the concentrate to wear rubber gloves, eye shield, a mackintosh and rubber boots and if any concentrate should come in contact with the skin it should be washed off immediately. Owing to their possible dangers their use is controlled by the recently passed Agriculture (Poisonous Substances) Act, 1952. Statutory Instruments under the Act (C. & D., 1952.II.837) are being made to lay down the precautions which should be observed. A useful account of the pharmacology and toxicology of certain organo-phosphorus insecticides is given by S. H. Rohwer and H. L. Haller⁷.

TEPP (HETP)

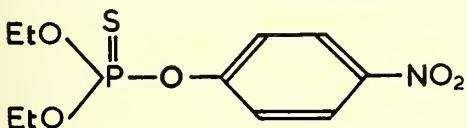
Tetraethyl pyrophosphate (TEPP) is completely miscible with water, is an odourless, colourless, hygroscopic oily substance which hydrolyses rapidly to give harmless products.



As a consequence the concentrate after dilution should be used within an hour or so. TEPP is normally sold as 20-40 per cent. concentrates with or without wetters. The most important pests controlled are aphids and the active forms of red spider but it is useless against the eggs. It may be regarded as an alternative to nicotine which it is tending to displace owing to its lesser cost. TEPP is compatible with wettable sulphurs, DDT, BHC, derris, etc., but not with any alkaline material such as lime sulphur, Bordeaux mixture, etc.

Parathion

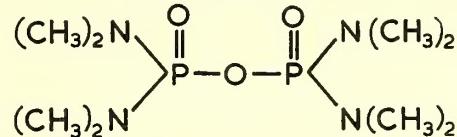
Parathion (O, O-diethyl O-p-nitrophenyl thionphosphate) is a pale yellow almost odourless oil liquid but the technical product is sometimes brown with a garlic-like odour. In contrast to TEPP it is a reasonably stable substance. As far as is known it is not sold in less than 1-pint tins, and is



only available as a miscible liquid in Great Britain. The chief pests controlled are aphids; red spider; leaf miner on chrysanthemums, tomatoes, cinerarias, etc.; woodlice; greenhouse symphilids and chrysanthemum eelworm. It is a better spray than TEPP against strawberry aphids. To avoid risk to human beings the strawberry plants should be sprayed a month before picking. Parathion is compatible with most other spray materials but should not be used with strongly alkaline material. It is sometimes difficult to unscrew the tops of parathion tins where large pliers are not available. This difficulty may be overcome by gripping the cap sideways in a steel vice and cautiously easing the cap by turning the tin. Estimated production in the U.S.A. in 1951-52 is 7 million lb.

Schradan

Schradan (octamethyl pyrophosphoramido, OMPA) has been named after its discoverer, Gerhard Schrader, a German chemist employed by the I.G. organisation during the last war. Schradan is an almost odourless, colourless somewhat viscous oil and is a systemic poison, i.e., it is absorbed by the plant into its sap and is toxic to aphids when they

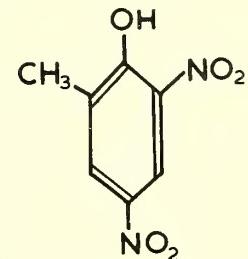


suck the juice of the plant. This is a valuable property since aphids often curl leaves or live on their under-sides and consequently are not reached by contact insecticides. Schradan-like compounds are made by three manufacturers and are usually sold as a liquid concentrate containing 60-70 per cent. of active material.

The chief uses that are made of schradan by growers are against aphids on sugar beet, strawberries and cruciferous crops (cabbages, etc.). However, in view of its persistence it may be regarded as the most dangerous of the three organo-phosphorus compounds now marketed. At least a month should elapse before sprayed crops are eaten.

3. Other Insecticides

DNC (2-methyl 4:6-dinitrophenol, dinitro-o-cresol) in recent years has tended to replace tar oil as a winter wash on apples. Combined with petroleum oil it is effective against aphids, capsid and to some extent, red spider. If DDT (0.1 per cent.) is added to the spray tank, apple blossom weevil and caterpillars are also controlled while apple sucker may receive a check. This gives no control of codling moth or sawfly when sprayed in winter. To achieve the best results the spray should be put on as late as possible just before bud burst. In an orchard where the above combination has been used for some years it has not been possible by an ordinary search to find red spider eggs. DNC is perhaps the best general spray for apples so far available.



DNC used as an insecticide is not covered by the Agriculture (Poisonous Substances) Act, 1952, and has been used with perfect safety for many years (see also below). Protective clothing normally worn is a mackintosh, gum boots and some form of head covering. It is obviously unwise to allow the concentrate to come in contact with the skin, and hands should be washed before food is eaten. Vegetables growing near the trees should be protected from the spray but grass is unlikely to take permanent harm.

LEAD ARSENATE: This old favourite is still generally recommended at about 2 lb. of wettable powder per 100 gall. for the control of codling moth on apples in late June. This is a spray that amateurs rather tend to forget, but even in otherwise well-sprayed orchards a great deal

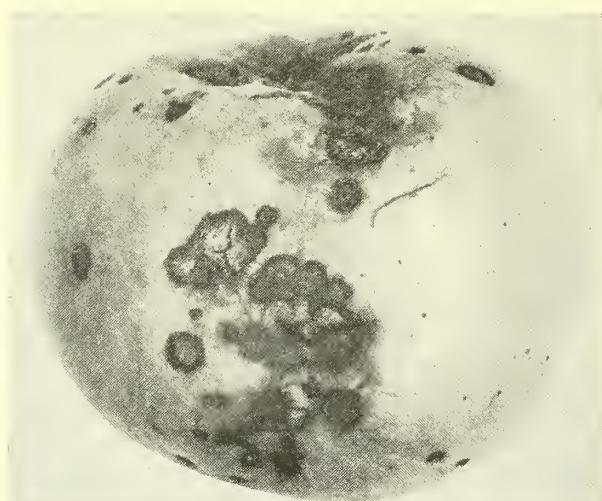


Fig. 2. Scab on an apple. It could have been prevented by spraying with lime sulphur or organo-mercury.

of damage may be done by codling moth (Fig. 1). As lead arsenate is a poison the diluted wash should not be allowed to drip on to ripening blackcurrants or vegetables. Livestock should also be removed for a time from orchards that are being sprayed.

Minor Insect Pests

For convenience and compactness certain minor pests have been grouped together below:—

(i) *Wasps*. These destructive insects cause much damage to ripening fruit. The ideal plan of allowing the pest to carry poison bait back to the nest has not been properly worked out. The only satisfactory procedure is to find the nests and sprinkle derris powder or DDT dust round the nest entrance so that the insects disturb the dust on entering or leaving. The older procedure of pushing a lump of sodium cyanide down the entrance of a nest in the evening and closing it up is effective but suffers from obvious disadvantages. This method should on no account be used when nests are in buildings. Where the nests cannot be



Fig. 3 (left). Barley showing characteristic bow ears caused by spraying too early at the one- to two-leaf stage with MCPA or 2:4-D.
Fig. 4 (right). Barley showing a twisted ear and irregular grains from spraying (still too early) at the three- to four-leaf stage with MCPA or 2:4-D.

found the old remedy of a narrow-mouthed milk bottle hung in trees and baited with jam and stale beer certainly does catch many wasps.

(ii) *Earwigs*. These pests can do much damage to ripening fruit particularly in grassed orchards and are perhaps best dealt with by liberal applications of DDT dust round the base of the trees in good time. More damage is probably caused by earwigs than is generally supposed since they are nocturnal in habit. In ripening apples typical damage is a small hole about $\frac{1}{16}$ in. in diameter and perhaps $\frac{1}{8}$ in. deep. Unless special precautions are taken earwigs are nearly always found in apricots ripening on a wall.

(iii) *Ants*. Ants are sometimes troublesome in housing. BHC dust is probably the best insecticide obtainable in Great Britain to use against this pest. Chlordane is perhaps better but is not readily obtainable in this country. Where a bait is preferred thallium sulphate mixed with sugar is sometimes used. It is very poisonous, however.

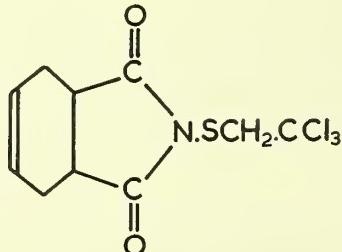
Fungicides

Lime sulphur

Lime sulphur has been defined as a polysulphide sulphur of empirical formula CaS_{x} containing not less than 24 per cent. weight in weight of polysulphide sulphur and has been sold as a fungicide against apple scab (Fig. 2) for some forty to fifty years. Its main uses are against apple and pear scab, big bud in blackcurrants and peach leaf curl. The normal spray programme recommended for apples and pears is 2.5 per cent. lime sulphur at green cluster (together with 0.05 per cent. DDT), followed by 2 per cent. lime sulphur at pink bud, 1 per cent. at petal fall (together with BHC for apple sawfly) and a 0.75 per cent. ten days later. To protect against big bud of blackcurrants the normal recommendation is 2 per cent. just before flowering, while a similar spray programme is applicable to gooseberries against mildew. Here care must be taken since certain varieties of gooseberries are sulphur-shy, e.g., Leveller, Careless, Early Sulphur, Freedom, etc., and should not be sprayed with lime sulphur. Lime sulphur also causes damage to certain varieties of apples and pears. Thus damage may occur when Lanes Prince Albert and Beauty of Bath apples are sprayed while the pear Doyenné du Comice is particularly sensitive and should certainly not be sprayed with lime sulphur. Fortunately SR 406 (see below) may prove to be a satisfactory substitute on these varieties, while mercury sprays are also recommended (see below).

SR 406

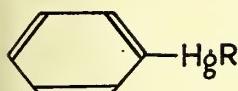
SR 406 is a fungicide recently introduced from the U.S.A.⁸ and in 1952 was the subject of grower trials in Great Britain. Results have been encouraging and spray damage slight or nil. The formula of this substance, which is synthesised via a Diels-Alder reaction from butadiene and maleic anhydride followed by a condensation with the requisite mercaptan is shown below:—



The substance may be available during the coming season for further commercial trials.

Organo-mercurials

Organo-mercurials have the general formula shown below, where R may be acetate or chloride, etc. The phenylmercury is the biologically active moiety. The acetate, chloride,



and the mercury compounds used for seed dressings are poisonous and should be handled with respect. The phenylmercury acetates and chlorides are sold as wettable powders as an alternative to lime sulphur for the control of scab on apples and pears and have the considerable advantage that they may be used on sulphur-shy varieties, while in addition very good scab control has been obtained on such varieties as Worcester Pearmain. At present it is a little difficult to forecast the exact niche these compounds will find in the spray calendar, but some growers prefer to use lime sulphur preblossom and mercury postblossom. Phenylmercury is not compatible with insecticides formulated with oils.

The organo-mercury dry seed dressings are used on a large scale either alone or more usually formulated with BHC (against wireworm) and for dressing cereal seeds against fungus diseases. Suppliers of products of this type may be found in the Ministry of Agriculture's list of approved products.⁶

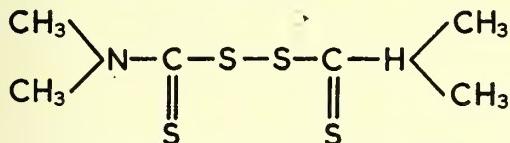
Copper Sprays and Dusts

The chief copper compounds on the market are formulations of copper oxychloride, copper carbonate and various copper complexes closely related to Bordeaux mixture. For a more detailed knowledge of the chemistry of these compounds one could hardly do better than consult Hubert Martin's book.⁹ This class of fungicide finds an important application in the control of blight on potatoes and tomatoes in the wetter parts of the country and is formulated either for spraying or dusting.

In Ireland copper is also used to control scab on apples but in Great Britain phytotoxic damage appears to be too great to warrant its use for this purpose. Against blossom wilt in cherries a spraying just before flowering and just after leaf fall is recommended. An application of minor importance is against peach leaf curl just when the buds are bursting in the spring as an alternative to lime sulphur.

Thiram (TMTD)

Dressings containing thiram, TMTD (tetramethylthiuram-disulphide) are believed to owe their fungal activity to the release of hydrogen sulphide. They are non-toxic and are finding increasing use as seed dressings for peas,



beans, flax, linseed, lettuce and some other seeds. Special benefit is obtained from these seed dressings when used on early sown seeds, thus in March-planted peas, germination may be improved by as much as 60 per cent. while in May-planted peas little benefit may be gained. Phytotoxicity is not important provided that the makers' instructions are observed.

Selective Weedkillers

(i) *MCPA and 2:4-D.* Since the end of the war progress in the development of selective weedkillers has been astonishing. To the farmer it has meant weedless cereal crops and better pastures; to the horticulturalist the burden of carrot and onion weeding has largely been eliminated while to the gardener, and those interested in good turf, weed-free lawns are only a matter of an occasional spraying. All this has come about since the discovery made during the war that the salts and esters of 2-methyl-4-chlorophenoxy-acetic acid (MCPA) and the equivalent 2:4-dichloro acid (2:4-D) are, in general, more toxic to broad-leaved plants than to grasses and cereals. There has been much speculation as to the mode of action of these compounds and it has been found that where the sixth position of the benzene molecule is blocked all activity goes. All that can be said



Fig. 5. The approval mark of the Ministry of Agriculture and Fisheries and Department of Agriculture for Scotland that appears on labels of officially approved products.

with reasonable certainty is that it is likely that in some way these chemicals interfere with some plant enzyme system and so result in the death or injury of the plant. These compounds have raised great scientific interest not only because of the minute quantities in which they act but also because they are transported within the plant. In Great Britain more MCPA is sold than in the U.S.A., but in the United States the reverse holds and their estimated production of 2:4-D in 1951-52 was 28 million lb.

Precautions

There is usually little to choose between MCPA and 2:4-D as weedkillers. MCPA is normally applied at the rate of 2-4 lb. to the acre while the esters of 2:4-D are used at the rate of $\frac{1}{2}$ -1 lb. (100 per cent.). Tomatoes are particularly liable to be tainted by MCPA (a burning in the back of the throat is characteristic) and this may be even brought about by spraying a lawn outside the tomato greenhouse. This taint (which is largely eliminated by cooking) is due to impurities present in the MCPA and may be avoided by using an ester of 2:4-D. When used in the garden particular care should be taken to prevent these substances drifting on to flowers and vegetables. Vines are particularly susceptible to damage.

In spraying cereals the weeds should be at the seedling stage while the crop should be well tilled before spraying. Damage will certainly occur to undersown crops, for example, clover. Other legumes are also readily damaged by MCPA and 2:4-D. Damage to cereals has also been known to occur when the spraying is carried out too early or too late! The accompanying illustrations (Figs. 3 and 4) show the sort of damage which may be expected. When the spraying has been completed the sprayer and lances should be carefully washed out, and particularly when the esters are used it is advisable to wash out with washing soda.

Where paths are to be cleared of weeds sodium chlorate is probably the most satisfactory chemical while moss on paths is best eliminated by sodium arsenite. The chief hazard with sodium chlorate is the danger of fire once it has dried on the clothing, while sodium arsenite should be handled with the care due to a dangerous poison. MCPA and 2:4-D are both non-toxic and safe to use.

(ii) *DNC.* (Dinitro-o-cresol) finds application not only as an insecticide (see above) but also as a selective weedkiller for cereal crops. While it has been used for many years with perfect safety as an insecticide, in recent years a number of deaths have been caused through its use as a weedkiller. DNC is applied at a higher concentration as a weedkiller than as an insecticide and the deaths occurred because the danger of prolonged exposure to the higher

concentrations during warm weather was not realised. As a consequence these substances, when used as weedkillers are covered by the Agriculture (Poisonous Substances) Act, 1952. The only advantage DNC possesses over MCPA and 2:4-D is that it is more effective in eliminating cleavers and poppies from cereal crops than the MCPA type of spray.

(iii) *Other selective weedkillers.* For use against weeds in young onions dilute sulphuric acid has found a useful application. The methods used are described in a Ministry leaflet.¹⁰ For weeds in carrots, parsnips, and forest seedling nurseries¹¹ certain selected tractor vaporising oil fractions (TVO) are finding increasing use for weed control by commercial growers. Some farmers are adding DDT formulations to TVO for simultaneous control of carrot fly.

Poison Book Entries

When making retail sales, entries in the poison book (as Schedule 1 sales) must be made for organo-phosphorus compounds, lead arsenate, DNC used as a weedkiller, thallium sulphate, arsenic compounds, nicotine (except dusts containing 4 per cent. or less), all mercury compounds except those containing less than 1 per cent. mercuric chloride, 2 per cent. mercuric iodide or organic compounds of mercury with less than 0.2 per cent. mercury. (This last exception does not include compounds where mercury is directly linked to a methyl group.)

Approval Scheme for Preparations

In 1942 the Ministry of Agriculture and the Department of Agriculture for Scotland in collaboration with the Association of British Insecticide Manufacturers started a voluntary scheme for the approval of crop protection products.

The approval of products is carried out by an Advisory Committee of impartial scientists under the chairmanship of Professor J. W. Munro, C.B.E. Each year an Approved List⁶ of products is published and copies may be obtained free of charge, from the Ministry of Agriculture and Fisheries, 28-32 Chester Terrace, Regents Park, London, N.W.1. Approval allows the manufacturer to use the Ministry's Approval Mark (Fig. 5) on his label and recently it has also been agreed, under certain conditions, that he may use the Approval Mark in advertising approved products. Both the insecticide industry and the Ministry of Agriculture are justly proud of the excellent collaboration achieved and the smooth way in which the scheme has worked.

(Figures 1-5 are Crown copyright.)

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HORTICULTURAL FORMULAS

FOR destroying sucking insects (capsid bugs, leafhoppers, aphids, scale insects and thrips), a contact wash is widely used.

Nicotine-soap Wash

Nicotine (95-96 per cent.)	$\frac{1}{2}$ -1 fl. oz.
Potash soft soap	$\frac{1}{2}$ -1 lb.
Water	10 gall.

Dissolve the soft soap in about $\frac{1}{2}$ gall. of warm water. Allow to cool, add the nicotine, and make up to 10 gall. with water (preferably rain water). Apply the wash forcibly through a coarse nozzle to all parts of the plant, especially to undersides of leaves. Avoid using in bright sunlight, and do not apply or allow to drip on to herbs, salads, mature leaf vegetables, ripening fruits, or, because of the danger of poisoning hive bees, to plants in full bloom. To the foliage of tender plants, and for controlling such pests as the chrysanthemum leaf-miner, it is preferable to make several applications of a dilute wash.

Nicotine Dusts

Dusts containing 2 per cent. nicotine adsorbed on to a finely divided inert carrier are suitable for controlling aphids and thrips. For destroying capsid bugs, woolly aphids, mealy bugs, and caterpillars that feed within rolled leaves a 3 per cent. dust; and for controlling sucking and biting insects a 4 per cent. dust containing lead arsenate or derris, are used. Slugs are readily killed by nicotine dusts if the application is made after dark when they are crawling over the ground or low plants. Precautions should be taken to keep the dusts from settling on the plants listed under nicotine-soap wash.

Lead arsenate wash

Lead arsenate wash has become a routine spray protection against codling moth and biting caterpillars. The usual strength is:—

Lead arsenate paste	1 lb.
Water	20 to 25 gall.

Rub down and thin the paste with water before adding the remainder of the water. As the leaves must be coated with the compound, a fine spray is used. Soap is incompatible with lead arsenate, and the compound is useless against sucking insects or fungi. It may be combined with lime sulphur or Bordeaux mixture to give an insecticidal and fungicidal covering. Being poisonous to live-stock and human beings, it cannot be applied to vegetables and full-grown fruits.

Derris Preparations

The pulverised root of certain species of derris, mixed with a spreader, is used for controlling sucking insects, and, to a lesser degree, young caterpillars on garden plants. Derris preparations are used in preference to nicotine dusts where a non-poisonous preparation is required, though insecticides made from derris and related plants are highly toxic to fish.

Derris washes are used like nicotine-soap washes, and for young caterpillars on roses and tender-leaved plants.

White-oil Emulsions

Highly refined petroleum oils of high boiling point have replaced the cruder paraffin oil emulsions for controlling such pests as scale insects and red spider mites. Nicotine added to a 1 per cent.

concentration of the emulsion provides a highly efficient insecticide for applying to roses and ornamental trees and shrubs to control the immature stages of scale insects.

Fumigants

Against wireworms, leatherjackets, cockchafer larvae, swift moth larvae, millipedes, woodlice, root maggots (larvae of sciarid flies), and root-feeding aphids, fumigants are used. For use as a soil fumigant, flake or "whizzed" naphthalene is most suitable in gardens. Its action is chiefly that of a repellent, and it thus allows plants to become established in pest-ridden soils. Young grubs of chafer and young caterpillars of swift moths are killed by heavier applications of the compound.

The substance should be spread at a rate of 3-4 oz. per sq. yd. for light soils, or 6-8 oz. per sq. yd. for heavy soils, evenly over the soil surface and lightly forked in so that it is thoroughly incorporated with the upper layers of soil. The dressings should be followed by a copious watering, or the application should be made either before or during rain.

In the amateur gardener's greenhouse against white fly tetrachlorethane is suitable. The liquid is poured on the paths in the evening at the rate of $2\frac{1}{2}$ fl. oz. per 1,000 cu. ft. The vapour may be used in tomato houses, but caution is needed in a house of mixed ornamentals. In houses containing azaleas, chrysanthemums, cinerarias, dahlias, salvias and certain other plants the fumigant should never be used.

Aspects of Growth Promotion

1. CHEMICAL CONTROL OF GROWTH

By J. M. B. KENNEDY, B.Sc.(AGRIC.), N.D.D., C.D.D. (WEST OF SCOTLAND AGRICULTURAL COLLEGE, GLASGOW)

MORE than twenty years ago it was recognised that the growth of plants could be affected by the application of chemical compounds. What may now be regarded as classical experiments showed, in urine, used as a growth promoter since the earliest of times, the presence of indole acetic acid (IAA). Compounds with chemical and biological properties identical with those of IAA, and known as auxins, can be isolated in small amounts from plant tissues. Related investigations have led to the delicate matter of stimulating and directing certain of the physiological processes of living and healthy plants to suit human ends.

IAA affects the growth and respiration of plants through phosphate metabolism. Empirical information suggests that the chlorinated benzoic acids are similarly active provided both ortho positions are substituted by an electro-negative group. Such a compound is 2, 3, 6-trichlorobenzoic acid while 2, 4-dichlorobenzoic acid is inactive. With the phenoxyacetic acids, however, para substitution gives the greatest increase in activity, e.g., 2, 4, 5-trichlorophenoxy acetic acid (2, 4, 5-T.) is active, but 2, 4, 6-T. is inactive. The specific action of any of these compounds cannot be traced to a particular chemical or physical property.

Processes Influenced

The plant processes it has been found possible to influence to an extent which makes the manufacture and marketing of the auxins economical are as yet few. They include, however, the following. The compounds mentioned are probably the most useful of the many known.

(1). *Stimulation of root growth in cuttings:* Auxins in which the acetic acid side chain is replaced by an isobutyric group are now widely used, for example, 3-indole acetic acid, 3-indole butyric acid, 1-naphthyl acetic acid and 2, 4-dichlorophenoxybutyric acid. Of these the last mentioned is the most potent but there is only a narrow margin between the amount of each required to induce good rooting and the amount to injure the cuttings, hence they must all be applied in low concentrations. Mixtures of phenoxy compounds with, for example, indole butyric acid are safest for general use. The chemicals are prepared as dusts, liquids or pastes (0.005-0.1 per cent.) under trade names, e.g., Aquazen, Hortomone and Seradix. Not all plants respond to chemical root-inducing treatments but favourable results can be expected from those customarily propagated by cuttings.

(2). *Prevention of fruit drop:* There are three types of drop in fruit-trees: (a) unpollinated or unfertilised blossoms due to auxin deficiency; (b) June drop of young fruits (too high auxin concentration in cells); and (c) pre-harvest drop (caused by auxin deficiency). Under the trade names of Anapal, Phymone and Preharvo the compounds used include α -naphthalene acetic acid, its sodium salt and naphthalene acetamide. These crystalline compounds are dissolved in alcohol, then diluted with water to a concentration of 10 parts per million and sprayed over trees. The process is now a recognised practice in orchards. The period of protection given is from ten to twenty-one days after which "drop" occurs suddenly. As the timing of the application is critical, difficulties may be encountered when large areas require treatment.

(3). *For the stimulation of fruit setting and the production of seedless fruit:* proprietary preparations used include Betapal, Pollinade, Tomoset. 4. Chlorophenoxyacetic acid and 2, naphthoxyacetic acid may be used on tomatoes;

α -phenoxypropionic acid on apples; α -(2-naphthoxy) propionic acid on pears. The compounds are applied as pastes, sprays or vapours, so as to provide an adequate supply of auxin in the early stages of development. The keeping qualities of treated fruits have not yet been fully determined.

(4). *Prevention of growth in stored plant material:* The preparation Methapal is widely used. In stored potatoes, the methyl ester of 1, naphthyl acetic acid and the methyl, ethyl, butyl and isopropyl esters of 2, 4, 5-T. have been tried but the use of these compounds is mainly experimental as yet. Applied as a spray (0.001-0.05 per cent.) or as a dust 0.2 per cent., the potassium salt of the acid may yet prove useful to retard the premature opening of fruit tree buds (peach, plum and apricot) especially in cold weather, in which they may be damaged by frost.

Compounds other than auxins which are used in this way include 2, 3, 5, 6-tetrachloro-nitro-benzene, isopropyl phenyl carbamate and maleic hydrazide. Maleic hydrazide interferes with auxin action inhibiting the growth of active and terminal buds, possibly as a respiratory poison. Higher homologues of 1-(alkoxy methyl) naphthalene, e.g., amyl-oxy- and cyclohexoxy-, favour sprout formation.

Account must also be taken of the substances which affect growth indirectly, the well-known selective weed-killers. Although their action is not strictly growth promotion, these compounds act physiologically in that way, but being applied in greater concentrations, they over-stimulate and so kill the affected plants. The most effective so far include the following derivatives of phenoxyacetic acid:

2, Methyl-4, chlorophenoxyacetic acid (MCPA). Chiefly produced and most widely used in Great Britain as methoxone, marketed under the name Agroxone, as a dust or a water solution of the sodium salt.

2, 4-dichlorophenoxyacetic acid (2, 4-D)—a white crystalline substance almost insoluble in water (and therefore not applied as a spray). 100 ppm distorts plants, 1,000 ppm is lethal, but 1-2 ppm induces fruit formation of tomatoes from unfertilised flowers. There are various forms of 2, 4-D on the market, including the sodium, ammonium, amine salts, di- and tri-ethanolamine salts; and esters with ethyl, amyl, butyl and isopropyl alcohols. The esters are more potent than the salts but require greater care when used since they vaporise more readily. 2, 4, 5-Trichlorophenoxy acetic acid is closely related to 2, 4-D forming triethylamine salt, and esters with butyl and isopropyl alcohols, and is used in combination with esters of 2, 4-D. Potentially all auxins have herbicidal properties but 2, 4-D, methoxone and 2, 4, 5-T. are mainly used. Their selective action may depend on plant cuticle thickness, because lipid solubility increases when the ring compound becomes chlorinated. The increased concentration of these metabolites in the tissues may interfere with the native auxin IAA, the phloem and the physiological and enzymatic processes.

Details of the type of crop to which individual herbicides may be applied are too numerous for this article. (Manufacturers' catalogues should be consulted.) Note that care must be exercised against drift of sprays, dust and vapours on to susceptible species.

Details of Application

Growth substances and herbicides as already indicated are applied in the forms of dusts, sprays, vapours or pastes. The oil, emulsifying agent, or adjuvant added by commercial producers may affect the action of the compound used. Indeed the action of these types of compound depends

on a complex of factors, e.g., differences in retention of the spray or powder by the shoot, the amount and rate of penetration into the shoot, the uptake by the roots, the extent and rate of transport within the plant, and localised accumulation within the tissues (especially, it is thought, in growth promotion). For no phytotoxic substance has the precise mode of action been established. Since so many variables are involved in determining the action, further advances may best be obtained by integrated studies of the several aspects.

In considering the application of the phenoxy compounds for indirect growth promotion it has been suggested that plants may in time develop resistant strains in much the same way as bacteria have developed resistant strains to antibiotics. For this reason it may be advisable to vary the type of weed killer used from year to year, e.g., a hormone killer, followed by dinitro orthocresol (DNOC) rather

than use mixtures of different types of weed killer.

Farmers in Great Britain expect a kill of 95-100 per cent. from the use of these chemicals, but reduction, rather than eradication, of weeds may be more economic. A substance which restricts growth without killing the plant would therefore be very useful, and in this respect maleic hydrazide, which produces a general diminution of growth, could be a compound of the future.

What place might the various antibiotics take in the control of growth? They are under investigation as substances to prevent or control various plant diseases (e.g., Ascomycete infection) and, if they prove successful, could affect growth indirectly. In animal dietetics, they are believed to increase the availability of the nutrients in the feeding stuff, and by analogy, it may yet be established that antibiotics will show an auxin-like activity in the plant kingdom.

2. MAINTAINING SOIL FERTILITY

BY J. M. TAIT, B.Sc. (WEST OF SCOTLAND AGRICULTURAL COLLEGE, GLASGOW)

AGARDEN soil, like any other, is made up of inorganic material, commonly divided into sand, silt, and clay; organic material, derived from plant and animal remains and excreta; soil air, very similar to ordinary air but much richer in carbon dioxide; and a very dilute solution, chiefly of salts, called soil solution. Among the organic material must be counted—and emphasised—a teeming population of micro-organisms. A garden soil differs from a natural soil in being, as it were, organised to increase its fertility. For this the chief requirements are that the texture of the soil and the manner in which the soil particles are bound into aggregates or crumbs—usually referred to as the structure of the soil—should be suitable for the soil air and soil solution to circulate freely, but not too freely or the soil solution will drain away and leave the soil dry and sterile; there should be an adequate food supply to support abundant micro-organisms; the temperature and other physical conditions should be favourable for those organisms to thrive and for the development of plant roots; and there should be adequate supplies of all the chemical elements which plants require from the soil, combined in forms that are readily assimilable. There are two principal means of achieving these conditions: by tilling operations and by the addition of materials which would not otherwise reach the soil. Both are necessary. No amount of digging will make a soil productive if plant food is not returned to it; not all the fertilisers in the world can make up for neglect of cultivation.

Factors Affecting Soil Texture

The texture of the soil is mainly dependent on the relative proportions of sand, silt, and clay. In general the higher the proportion of sand the freer the drainage resulting in a dry and crumbly soil; the higher the proportion of clay the wetter and stiffer the soil. But whether a soil be sandy, clayey, or intermediate, its fertility can be greatly improved by getting its structure right, and this is largely a matter of adding the right quantities of organic material, and lime, quick- or slaked, or calcium carbonate in one of its many forms. The essential distinction between sand, silt and clay is one of size, sand consisting of comparatively large particles, silt intermediate and clay much smaller; in fact the particles of clay are so small that it is colloidal in character. When organic material is added to soil, it mostly breaks down into a complex mixture of substances, collectively known as humus, which are also colloidal. Like other colloidal materials, clay and humus are readily flocculated when mixed with suitable electrolytes. This happens in soil through the agency of the calcium ions added in liming, and the particles then become

capable of aggregating into crumbs, so that a good tilth can easily be achieved. The soil air and water become readily available to the plant roots, and these, whilst obtaining adequate support, are able to develop freely, which they could not do, or could much less readily do, in stiff, compacted soil.

Research which may prove to be of great importance has been going on recently in the United States on substances which can be used instead of natural organic material to improve soil structure and condition. Out of many hundreds tested, two closely related compounds have shown outstanding promise. One is obtained by polymerising acrylonitrile, and hydrolysing the product to the corresponding polybasic carboxylic acid. It is used in the form of the sodium salt, and in extensive trials it has been found that adding less than 0.1 per cent. of the weight of soil produces the same effect on soil structure as 200 times as much peat moss or 500 times as much commercial compost. These compounds are manufactured under the trade mark Krilium.

Only recently has the extent and significance of the part played by bacteria, fungi, protozoa, etc., in a healthy soil come to be recognised. The outstanding example is the conversion of organic material to humus, itself the food of countless other micro-organisms. Another is the work of the bacteria which co-operate with the roots of plants of the pea family to bring atmospheric nitrogen into combination, and so make it available as plant food. This being so, it may at first sight seem a contradiction that it is sometimes desirable to sterilise soil. The purpose, however, is to kill organisms causing disease. The beneficent organisms soon find their way back into the sterilised soil, and may often be all the more effective as a result of the removal of less desirable competitors. Sterilisation was formerly carried out by baking in kilns, but this is liable to damage soil structure, and it is better to use steam. It is also possible to sterilise soil by means of chemicals. Among those most often used are formalin, naphthalene, methyl bromide, and ethylene dibromide, but many other substances have been tried successfully. To be suitable a substance must, in addition of course to being lethal to micro-organisms, be fairly stable and easy to apply, readily vapourise when mixed with soil, and have no harmful after-effects.

Use and Abuse of Liming

It is usually said that the object of liming is to neutralise acidity, but this may be misleading. It is certainly true that most soils naturally tend to develop acidity through decay of organic material, leaching away of calcium bicarbonate and other causes, and that the liming material does

make the soil less acid; also the degree of acidity of the soil can be used as an index of how much lime to add. Acidity however is not of itself injurious to plants, which can grow quite happily in water cultures more acid than soil ever normally becomes. Apart from the important effect on structure already mentioned, what the calcium compounds appear to do in the soil is first, to make available certain nutrient elements to the plant which it could not otherwise get; second, to prevent the occurrence of certain soluble compounds poisonous to plants, and third, to provide calcium for plants to feed on. Soils differ greatly in their need for liming. It is probably safe to say that most never get enough, but it is possible sometimes to overdo it, especially on very sandy soils or on garden soils heavily treated with organic manure. A good rule in most cases is little and often. It should be remembered also that plants vary in their liking for lime. There seems to be little reason for preferring one liming material to another, for all must rapidly become carbonate when applied to the soil. All forms of the carbonate are much cheaper and many are less unpleasant to handle than the highly caustic oxide and hydroxide; on the other hand, since the chemical equivalents are 28, 37, and 50, it takes only a little over half the oxide or about three quarters the hydroxide to produce the same effect as a given quantity of carbonate, which moreover is liable to contain a higher proportion of impurities. It is best, if possible, to obtain supplies sold under a guaranteed analysis (this applies to fertilisers also). In some instances impurities may be of benefit because of their fertilising value.

Supply of Salts

Of the many essential elements which plants can obtain only from soil some are required in considerable quantities; others, commonly called trace elements, in much smaller quantities. Of the first group only nitrogen, phosphorus and potassium usually need to be supplied in the form of fertilisers, at least in Britain; the soil nearly always contains the others in adequate amounts either naturally or because they have been added when some other purpose is served. Thus supplying nitrogen in the form of ammonium sulphate supplies sulphur as well. Besides the nutrients removed by crops, there is obvious need to make good soluble salts washed away in drainage water. This however is not so great as might be expected, except in very sandy soils, because of the mechanism called base—or better cation—exchange. The colloidal components, clay and humus, bind to themselves considerable quantities of cations, the chief being calcium in normal soils not deficient in that element. If a soluble salt, e.g., potassium chloride, is added to such a soil, the cations tend to be retained by the colloids and an equivalent number of calcium ions set free, many of which are ultimately leached out along with the equivalent in anions. Anions are not usually retained thus in soil, but only if they enter into some insoluble compound. Here is a third important reason why fertilisers may be needed. A soil may often contain a plentiful supply of an element but locked up in forms in which plants cannot make use of it. A good example is phosphorus, which, if the soil has been inadequately limed, tends to form iron and aluminium phosphates, compounds so insoluble that phosphorus starvation commonly results. As a corollary it is wise to lime before adding a phosphatic fertiliser.

It should already be apparent, from what has been said of the beneficial effects of organic material on soil, why farmyard manure is so widely advocated. To obtain maximum benefit care must be taken to conserve the liquid excreta which contain all the potassium and most of the nitrogen. Also farmyard manure must be well rotted before application or much nitrogen will be unavailable. Next in value is carefully made compost. Among other organic materials in common use are seaweed, shoddy, bone meal, fish manure, and soot.

It would be difficult to give soil too much farmyard

manure. Market gardeners find it pays them to use it at rates of fifty or even more tons per acre for certain crops. Plants, however, have differing requirements of nutrients. Some, e.g., peas, beans and potatoes, have a particular appetite for potassium; roots do not thrive without plenty of phosphorus. In addition to farmyard manure or compost, dug in before the growing season starts, it may often therefore be advantageous to give dressings of fertilisers to suit particular crops. The most usual compounds used to supply nitrogen are ammonium sulphate, sodium nitrate, calcium nitrate, nitro-chalk (a mixture of ammonium nitrate and calcium carbonate), and urea; to supply potassium, the chloride and the sulphate. Potassium nitrate can be used to give both nitrogen and potassium. Phosphorus can be supplied as simple salts, e.g., ammonium phosphate (which obviously gives nitrogen as well), but nearly all phosphatic fertilisers contain calcium phosphate as the main ingredient. Superphosphate, a mixture of calcium dihydrogen phosphate with calcium sulphate, made by treating rock phosphate with sulphuric acid, is best for many purposes, because, as the acid phosphate is relatively soluble in water, the phosphorus is much more readily available to plants. Other phosphatic fertilisers are bone meal, already mentioned, steamed bone flour, ground mineral phosphate, and basic slag. These contain their phosphorus almost wholly as calcium ortho-phosphate and are therefore slower-acting. These substances differ widely, even within each group, in composition, rate of action, secondary effects, etc. Which to use, how much to apply, and when, are best learned by experience with aid, if possible, from experts versed in the local conditions. Not only must the nutrient elements be provided in readily available forms, but, equally important, in balanced proportions. Nowadays compound fertilisers are marketed which contain nitrogen, phosphorus and potassium in proportions adapted to particular purposes, but even these need to be used with discrimination. Plants cannot tolerate a very high total concentration of soluble salts, even of those which in smaller concentration are essential to its life.

Trace Elements

From the elements required by plants in smaller amounts, magnesium, iron, manganese and boron may be singled out, for these are the four of which shortage is most likely to be met with in Britain. Here again trouble is very unlikely to be experienced if plenty of farmyard manure and the correct amount of liming material have been used. If it is necessary to make good a deficiency, this may sometimes be done by giving the soil a very light dressing of an appropriate soluble salt, e.g., borax; but often it is better to spray the growing parts of the crop with a solution of the salt, or in the case of trees to insert pellets under the bark. Such treatment, however, should never be attempted except under expert guidance, for in all cases a very slight excess of the element is highly poisonous to plants, and far more harm may be caused to the plants than if nothing is done.

To sum up, there can be no simple recipe for fertility. A soil must be regarded not merely as a whole, but as a living and developing whole, and its health and fruitfulness depend on successfully maintaining every one of a very complex set of equilibria.

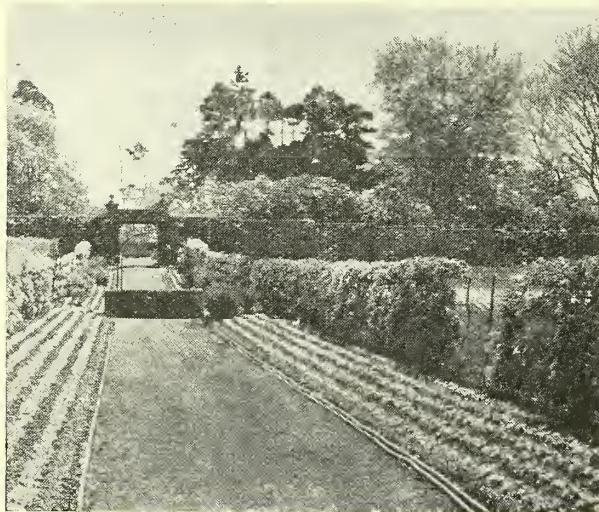
RECENT RESEARCH

INSECTICIDAL COMPOUNDS GRADED

AFTER studies in Kenya of the effects of DDT, gamma benzene hexachloride, B.P.C., and dieldrin on two species of malarial mosquito, Davidson (*Nature*, 1952, **170**, 702 and *Lancet*, 1952, **2**, 1170) found that their order of effectiveness was dieldrin (80-100 per cent. mortality over nine months); benzene hexachloride (30-100 per cent. over six months); and DDT (40-70 per cent. kills over nine months). All three caused irritation which tended to make a proportion of mosquitoes to fly off and survive, DDT to the greatest extent and dieldrin to the least.

The Work and Aims of a Private HORTICULTURAL RESEARCH STATION

AT Tilgate in the High Weald of Sussex is the Horticultural Research Station of F. W. Berk & Co., Ltd., New Oxford Street, London, W.C.1. It is one of the few British establishments of its type maintained by private enterprise. The company has been closely connected with agriculture since its inception in 1870. At the beginning of the 1939-45 war it found that to expand in the then

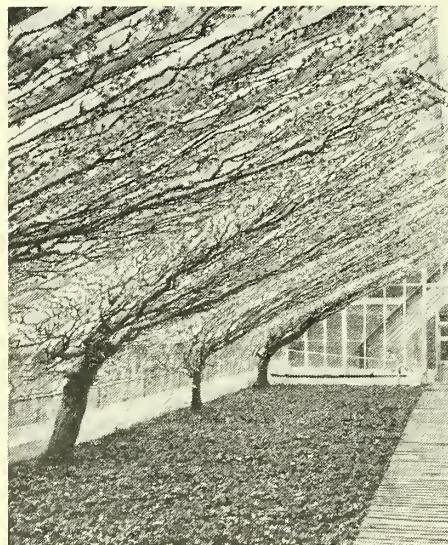


Main path through the walled garden.

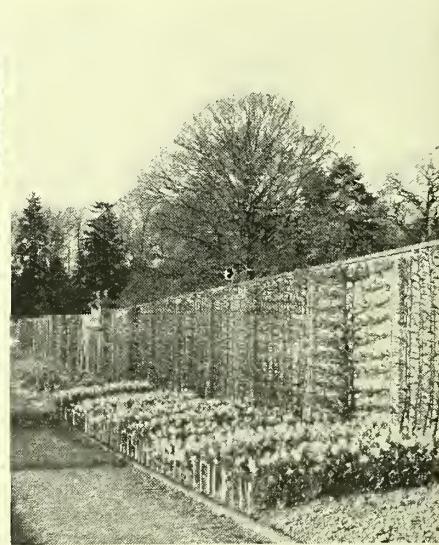
quickly specialising field of horticultural chemistry its existing research facilities had to be enlarged; and in 1942 the company was lucky enough to be able to move into a site (the former fruit and vegetable gardens of Tilgate Manor) that exactly suited the new requirements. Some eight acres in area, the gardens were isolated by Tilgate Forest from infections; possessed large glasshouses; and were well stocked with fruit trees that had been cared

for with a now rare quality of craftsmanship. Continuity of that craftsmanship has been facilitated by the Manor's head gardener's remaining to take over similar duties under the new regime.

The work carried out at the station is the investigation of the biological properties of the company's horticultural products. The products include preparations containing mercury and sulphur (for the company is Britain's largest importer of mercury and has long associations with sulphuric acid manufacture); copper; derris; pyrethrum, and DDT. To link with the company's production of solid and liquid fertilisers, work is also devoted to plant nutrition and the effect of trace elements, particularly of magnesium as magnesium sulphate. Also every batch of the company's products is tested there biologically for efficacy and absence of phytotoxicity. Research is done on new products, or on new uses of established products. The most important mercury compounds handled by the station as a routine are the organo-mercury seed dressings, which are tested for their effects on seed germination and disease control; and mercury compounds for the control of apple and pear scab. The station is particularly well placed for scab tests, as a part of the orchard is a living museum containing over sixty varieties of apples and over thirty of pears, so enabling the various phytotoxicities of a compound to be tested on a wide range of varieties. Work at the station has shown that mercury compounds are promising for the control of potato blight, and has established mercury compounds as a control measure for white rot of onions. The method of control recommended by the Ministry of Agriculture in its advisory leaflet No. 62 (1949), uses those compounds and acknowledgment is given to research done by Dr. J. R. Booer (director of the Tilgate Station). The keen observation of Dr. Booer led also to the discovery of the value of mercury compounds for controlling moss in turf, etc., for while he was engaged on other work he noticed that if traces of mercury compounds were present in pots, moss growth on the pots was suppressed.

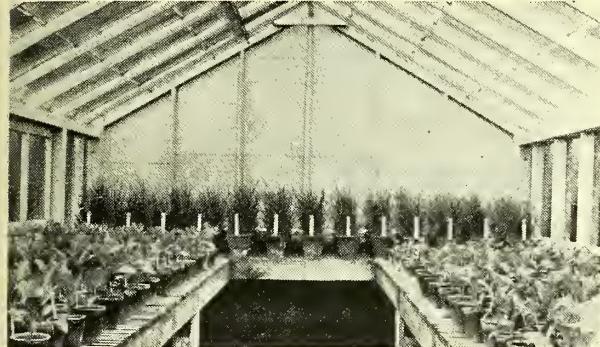


Peach trees (left) make good subjects for nutrition experiments. Chemicals have helped to produce the specimen lettuce shown proudly by the head gardener. (Right) the bulb museum extends along one side of the wall.



Formulation of Sulphur Preparations

The gardens are also concerned with the horticultural side of research on sulphur compounds in which an attempt is being made to reduce the phytotoxicity of the preparations while preserving their fungicidal properties, by improving the formulation. A new development in the sulphur field achieved with the help of Tilgate is the production of a dispersible sulphur spray in which the run-off effect has nearly been eliminated.



Routine absence of phytotoxicity tests in progress on cauliflower plants.

The effect of different formulations and groups of fertilisers is being investigated by the station. During the 1939-45 war quantitative effects of magnesium deficiency on glasshouse tomatoes was investigated, and that study led to an investigation of the blotchy ripening of tomatoes the results of which are to be published soon. A study of the nutritional requirement of glasshouse crops is being made in conjunction with an original development of culture which may have far reaching effects.



A typical yield of strawberries.

Often "pot"-scale experiments at Tilgate start a new piece of investigation and, if the results are promising, the work is then translated to field-scale plots and the results analysed statistically. Sometimes, however, the field trials have to be made elsewhere, and that always applies when climatic conditions different from those at Tilgate, are a material factor. The station is extending its investigations to horticultural chemistry problems of foreign crops including rice and millet.

The orchard, laboratory buildings, mess room, office, fruit stores, new glasshouses, etc., are on the Western side of the gardens. For moss experiments, a sample area of best Cumberland turf is being laid down there in bowling-green style, and a five-year plan is being carried out for replacing the orchard trees (except for the "museum") with larger blocks of commercial varieties. A catch crop of early tomatoes in one house produced in 1953 its first fruit on January 1, which is thought to be a record.

The east side of the station is the original walled garden of the Manor. More than 100 yards square, it is enclosed with a wall some twelve feet high, against which have been placed more than 500 apple and pear trees, espalier or cordon trained. The espalier trained trees are particularly suitable for controlled spraying experiments, for, by screening, the preparation under test can readily be applied to the distinct halves of a single tree.

Original glasshouses also arranged along the wall contain trees bearing world-famous peaches, each twig of which is tied to a frame so that the trees maintain a constant fan-shaped tracery. The trees are useful subjects for nutritional experiments. Nectarine trees of a new variety and named after Felix Berk, first chairman of the company, are similarly tied. They are kept as a work of horticultural artistry in memory of him. Neat rows of plants and shrubs, subjects of experiments, and clean gravel-paths intersect the garden, and beyond the wall like a backcloth to that scene rise the protecting trees of Tilgate Forest.

The whole station has a staff of fourteen which includes husbandry, scientist and other grades headed by Mr. H. I. Kingston, resident superintendent. Its marketable produce is sold. Visits from groups or individuals interested in the work of the station are welcomed.

SOIL STERILISATION

HERE are three main means of sterilising soil chemically. They are:—

1. **WITH FORMALDEHYDE.** One gall. of 40 per cent. formaldehyde is mixed with 49 gall. of water and applied to 10 to 18 sq. yd. of soil, which should be turned over one spit deep during the same day.

2. **WITH CRESYLIC ACID.** A general practice when labour is short is to apply uniformly over the surface cresyllic acid diluted 1 in 40.

3. **WITH CARBON DISULPHIDE.** The use of carbon disulphide for soil sterilisation is still in a development stage. Its purpose is to destroy wireworms and symphytids in glasshouse soils. Methods of use include injection with a special apparatus, or using an emulsion (a 50 per cent. emulsion diluted to 1 in 300 at the rate of 10 gall. per sq. yd.). Precautions should be taken against the vapour, which is highly inflammable and somewhat injurious if inhaled.

The vapours of formaldehyde, cresyllic acid and carbon disulphide are poisonous to plants. The houses must therefore be empty at the time of sterilisation, and plants must not be introduced until the smell has left the soil.

SOIL TESTING

A NUMBER of examples of simple test apparatus for testing the pH of soil samples are available. The method of sampling is, however, important. It is advisable to take several samples from different parts of the field or bed. The soil should be collected from root level—i.e., 6-10 in. below the surface, and the average of the separate results should be taken as the final figure. The following range of pH values may be encountered in soils: 4, very acid; 5.5, acid; 6, slightly acid; 8 alkaline. The amount of lime to be added to an acid soil cannot be calculated from the pH value of the soil only, but a guide for the first lime dressing is given in the following table:—

pH about	Hydrated lime to be applied (oz. per sq. yard).		
	Light Soils	Loams	Clay Soils
6.5	4	6	8
5.5	6	8	10
5.0	7	10	14
4.5	9	12	16
4.0	10	16	20

After a few weeks a second test should be made to decide whether a second dressing is required.

TRADE REPORT

Spot quotations for pharmaceutical chemicals represent the prices for wholesale quantities of standard quality. Prices of crude drugs and essential oils vary as to brand or grade.

LONDON, FEBRUARY 11: Trading in all markets during the week was slow, many merchants regarding it as the quietest week for several months. The slight improvement noticeable at the beginning of the year and for a few weeks afterwards has thus not been maintained, and, while there continue to be many inquiries from overseas markets for a wide variety of commodities, few of them culminate in actual orders.

A feature of the PHARMACEUTICAL and FINE CHEMICALS market was a cut in the price of SANTONIN—hitherto a firm commodity. Manufacturers attribute the reduction (£11 10s. per kilo) to increased output. The only other price change of importance was that of THYMPHOL which is now 1s. per lb. cheaper.

Demand for SULPHURIC ACID during the last quarter of 1952 increased considerably over that of the previous quarter according to returns just issued (see p. 145). The drug and fine chemical industry, which is but a small consumer in relation to total consumption, used 3,958 tons of the total of 428,592.

In the CRUDE DRUG market several commodities are quite firm despite little or no demand. IPECACUANHA retains its level. CASCARA SAGRADA, 1951 peel, has almost all been taken up on the spot and shippers in some cases cannot offer 1952 peel. Those who are able to offer are asking about 290s. per cwt., c.i.f. Top-quality Alexandria SENNA PODS are still short on the spot. Minimum quotations for Australian HONEY are about 2s. 6d. per cwt. up on the previous week. Madras TURMERIC is dearer for shipment, but old crop material, on the spot, is unchanged. Some grades of SHELLAC were marked up by 5s. per cwt. during the week. In AROMATIC SEEDS there was a little more inquiry for small lots of CORIANDER, but scarcely any at all for CUMIN. Forward offers of various Dutch seeds have been withdrawn because the extent of damage caused by floods in that country to stocks of seeds is not known. Quotations for Dutch seeds on the spot have consequently hardened and are nominal. All original bales of SARSAPARILLA have been sold on the spot. Re-packed material is being offered in limited quantities at 2s. 7d. per lb. (at least one penny up on previous levels).

The market for CASTOR OIL continues to weaken. Today's spot value of £191 per ton shows a big fall from the levels obtaining a year ago when the minimum rate was £306. In the ESSENTIAL OILS market Turkish OTTO-OF-ROSE is now offered at £325s. per oz.—a reduction of 35s. East Indian PALMAROSA is lower by 2s. 6d. per lb. and EUCALYPTUS by fourpence to sixpence per lb. LEMONGRASS remains a firm market.

UNITED STATES DRUG AND CHEMICAL REPORT

NEW YORK, FEBRUARY 10: The price schedule for domestic SANTONIN was reduced to \$95.00 per lb. (down \$15) owing to lowered costs and an effort to stimulate sales. While crude GLYCERIN remains in short supply, heavy quantities brought in from abroad in

recent months have eased the severity of the domestic shortage. MENTHOL continued to display a good tone, with values fully firm at the levels established in the previous week. Spot prices for ERGOT are higher, with the lowest quotation now \$2.70 per lb., up 20 cents, as a result of some recent forward purchasing. Lower per lb. are TOLU BALSAM at \$2.90 (10 cents) and Aleppy green CARDAMOMS at \$1 (70 cents) for material now afloat. Among ESSENTIAL OILS higher per lb. are SPEARMINT, USP, at \$7.95 (20 cents), and LEMONGRASS at \$1.10 (15 cents). Lower per lb. are CARDAMOM, \$39.00 (\$9); ROSEMARY at 70 cents (5 cents); and CEDARWOOD at 45 cents (3 cents).

Pharmaceutical Chemicals

ACETANILIDE.—1-cwt. lots are 2s. 11d. per lb. for crystals and 3s. per lb. for powder.

ACETIC ACID.—B.P. Glacial is £111 per ton.

AMPHETAMINE.—BASE is 130s. per kilo, and SULPHATE, 103s. d-AMPHETAMINE is from 640s. per kilo.

BENZAMINE.—B.P.C. LACTATE and HYDROCHLORIDE are 180s. per lb.

CALCIUM PANTOTHENATE.—Price per kilo is £32 10s.

CRESOL.—Price of B.P. quality from distillers is 7s. 9d. per gall. in 5-gall. lots.

LACTOSE.—English, in 1-ton lots packed in 1-cwt. paper-lined sacks is £137 per ton, delivered in the United Kingdom.

MAGNESIUM TRISILICATE.—In 28-lb. packages the prices (per lb.) are now as follows:—28-lb., 4s. 9½d.; 1-cwt., 3s. 10d.; 5-cwt., 3s. 8d. Bulk rates for larger quantities are from 3s. 4d. per lb.

OXALIC ACID.—1-ton lots of British material are £138 per ton delivered.

PARAFFIN.—LIQUID: Prices to whole-sale distributors for HEAVY, B.P., is £101 7s. 6d. per ton. LIGHT, B.P., is £82 7s. 6d. per ton and technical WHITE OIL, £69—all in 40/45 gall. returnable loaned drums, delivered in the U.K. SOFT PARAFFIN: WHITE is £88 7s. or £86 2s. 6d. per ton as to grade and YELLOW, £66 2s. 6d., all in non-returnable 3-cwt. drum. HARD PARAFFIN, m.p. 135/140° F., is £72 15s.; 145/150° F., £80; and 160/165° F., £100 per ton, in minimum-ton lots, ex works.

POTASSIUM PERMANGANATE.—Rates for B.P. material for 1-cwt. lots is 1s. 8½d. per lb., and for technical, 18½s. 6d. per cwt.

RIBOFLAVINE.—Price (per kilo) is £47 5s.; 100 kilo, £47.

SANTONIN.—Lower. The following prices now apply in the home market, including Eire:—5-kilo lots, £78 per kilo; 24-kilo lots, £79 10s.; 1-kilo, £81; 500 gm., £82 10s.; 250 gm., £84; 100 gm., £85 10s.; smaller quantities, £87.

SILVER SALTS.—NITRATE in 1,000-oz. lots is 4s. 0½d. per oz.; PROTEIN unchanged at from 36s. 3d. to 42s. 9d. and for VITELLIN from 68s. 6d. to 76s. 6d. per lb., as to quantity.

SULPHACETAMIDE.—Quotations (per lb.) are from 22s. 6d. for 1-cwt. lots. The SODIUM derivative is from 28s.

SULPHANILAMIDE.—Rates per lb. are: 5-cwt. lots, 9s. 6d.; 1-cwt., 9s. 8d.; 56-lb., 9s. 11d.; 28-lb., 10s. 0½d.

SULPHATHIAZOLE.—Price (per lb.) for 1-cwt. lots is 21s. 9d.

SULPHOCARBOLATES.—SODIUM PHENOLSULPHONATE, B.P.C. (powder) is now 7s. 11d. per lb. in 28-lb. lots; 7-lb., 8s. 3d. per lb. ZINC, B.P.C., is 7s. 7d. per lb. (28-lb.).

TERPINEOL.—Prices of B.P. grade are from 3s. to 3s. 6d. per lb., as to quantity.

THEOPHYLLINE.—ALKALOID is 24s. per lb.; SODIUM ACETATE, 32s. 6d.; AMINO-PHYLLINE (THEOPHYLLINE WITH ETHYLENEDI-AMINE), 27s.; all 1-cwt. lots.

THYML.—Lower. Price (per lb.) is now 20s. for 28-lb. lots.

ZINC CHLORIDE.—B.P.C., cake is from 4s. 6d. to 4s. 10d. per lb.; sticks, from 5s. 10d. to 6s. 2d. per lb. TECHNICAL, about 140s. per cwt.

ZINC OXIDE.—Steady. Rates per ton for B.P. quality are as follows:—2-ton lots, £130; 1-ton, £131; 5-cwt., £133; less than 3-cwt., £136.

Alcohol

Prices of ETHYL ALCOHOL per proof gall. are as follows:—

Plain British Spirit: (95 per cent. Gay Lussac, 66 o.p.); where the number of proof gall. taken over any one year ended December 31 is 300,000 or over the price is 3s. 5½d.; 200,000 and less than 300,000, 3s. 6d.; 100,000 and less than 200,000, 3s. 6½d.; 50,000 and less than 100,000, 3s. 7d.; 10,000 and less than 50,000, 3s. 7½d.; 2,500 and less than 10,000, 3s. 8d. Prices are exclusive of duty and are for tank wagon lots.

The following grades are subject to a premium on the above prices as follows:—

Absolute Alcohol, 99.5 per cent., 745 o.p., 2d. more per proof gall.; the special high strength (99.9 per cent., 752 o.p.), 4d. more; Doubly - rectified Alcohol (S.V.R.), 95.8 per cent., 68 o.p. is 3d. more and P.I. Rectified Alcohol, 96.1 per cent., 68.5 o.p., 7d. more. R.R. Absolute Alcohol (re-rectified, 99.7 per cent., 75 o.p.), 13s. 6d. per bulk gall. net.

Solvents

ACETATES.—Prices (per cwt.), for drum lots are as follows:—AMYL (technical), 240s. and (B.S. 552; 1950), 242s.; BUTYL (B.S. 551; 1950), 186s.; ETHYL (B.S. 553; 1950), 156s.

ACETONE, B.S.—Drum lots are from 108 per ton. B.P. is 1s. 5d. per lb. for 6-gall. lots.

AMYL ALCOHOL.—Technical grade is £237 per ton.

BENZENE.—Thiophene-free, is 7s. 11d. per gall. in 50-gall. barrels and for 1-gall., 11s. 6d. Technical is 5s. 7d. per gall. in bulk.

CARBON TETRACHLORIDE.—In 1-2 carboy lots, B.P. grade is £120 per ton. TECHNICAL, in 40-gall. drums, in less than 1-ton lots, is £76 per ton; 1 ton and under 2 tons, £74 10s.; 2 tons and under 4 tons, £74; 4 tons and upwards, £73.

ISOPROPYL ALCOHOL.—Prices range from 18s. 3d. to 19s. 9d. per gall., as to quantity.

PHTHALATES.—Prices for drum lots (per lb.) are as follows:—DIAMYL, 3s.; DIBUTYL, 2s. 4d.; DI-ISO-BUTYL, 2s. 1d.; DIETHYL (normal grade), 2s. 4½d.; DIMETHYL, 2s. 0½d.

Crude Drugs

ACONITE.—Spanish *napellus* is 3s. 6d. per lb., duty paid, ex wharf.

AGAR.—Kobé No. 1 on the spot is now about 17s. per lb.

ALOES.—Prime Cape is unchanged forward at about 157s. 6d. per cwt., c.i.f., spot is offered at 172s. 6d. Curaçao is 35s. per cwt., landed terms.

ANTIMONY.—English, 99.6 per cent. £237 10s.; 99 per cent., £225 per ton.

ARECA NUTS.—A parcel is offered at 42s. 6d. per cwt. on the spot.

ASAFETIDA.—Persian block is £15 per cwt., duty paid.

BALSAMS.—*Canada*: Spot is about 27s. per lb. for clear bright, paper - filtered.

Copaiba: Para, spot is 15s. to 15s. 6d. per lb., duty paid. Peru is in limited supply at from 11s. to 11s. 6d. per lb., duty paid. *Tolu* (genuine as imported) on the spot is 21s. 6d. per lb., in original cases and for shipment, 18s., c.i.f.

BELLADONNA.—ROOT.—A parcel testing 0.44 per cent. is offered at 2s. 6d. per lb. on the spot, duty paid; LEAVES are from 3s. per lb., as to test.

BENZOIN.—No. 1 Sumatra block on the spot is quoted at from £25 5s. per cwt. and for shipment, £23 10s., c.i.f. Siam almonds are from 20s. to 27s. 6d. per lb., spot, as to size.

BISMUTH.—In minimum 5-cwt. lots METAL is 17s. 6d. per lb.

BUCHU.—Round leaves are offered at 2s. 2d. per lb., on the spot.

CAMPHOR.—Chinese (B.P.) powder on the spot is 3s. 9d., duty paid; $\frac{1}{4}$ -oz. tablets are quoted at 5s. 9d. per lb., duty paid; $\frac{1}{4}$ -lb. slabs, 4s. 9d. per lb., duty paid.

CAPSICUMS.—East African on stalk, are 150s. per cwt., spot, and 130s., c.i.f., off stalk are 195s., spot, and 160s., c.i.f.

CASCARA SAGRADA.—Firm. American bark, 1951 peel, is scarce on the spot with 325s. per cwt., duty paid, asked. 1952 peel for shipment is 295s., c.i.f.

CASCARILLA.—Siftings are now 1s. 3d. per lb., on the spot.

CASSIA BARK.—Whole on the spot is 100s. per cwt. in bond.

CHERRY BARK.—Thin natural is from 1s. 10d. per lb., duty paid, and rossed, 2s. 2d. on the spot.

CHILLIES.—Sierra Leone on the spot are 160s. per cwt.; for shipment, 135s., c.i.f., nominal; Mombasa, 215s., c.i.f., and 230s., spot.

CINNAMON.—Ceylon for shipment (c.i.f.), OOOO, 2s. 4d.; OOO, 2s. 3d.; OO, 2s. 2d.; O, 2s. 1d.; firsts, 1s. 8d.; seconds, 1s. 7d.; thirds, 1s. 6d.; quillings, 1s. 3d.; featherings, 10 $\frac{1}{2}$ d.; chips, 6d. per lb.

CLOVES.—Firm. Offers of Zanzibar on the spot are 11s. 9d. per lb. and 10s. 9d. c.i.f., for shipment.

COCHINEAL.—Black-brilliant is from 8s. to 8s. 3d. per lb., and silver grey, 7s. 3d., spot.

COCILLANA.—Bark is 1s. 9d. per lb., spot.

COLCHICUM.—Corms on spot are offering at 2s. 3d. per lb., and seeds, 6s.

COLOCYNTH.—Pulp on the spot is 1s. 9d. per lb., duty paid.

ELEMI.—Spot offers are in the region of 2s. 3d. per lb.

ERGOT.—Portuguese for shipment is 17s. per lb., c.i.f., nominal, and 17s., spot.

GALANGAL.—A parcel on the spot is offered at 82s. 6d. per cwt.

GAMBoge.—Good average Siam pipe is £40 per cwt., spot.

GENTIAN.—French natural on spot is about 110s. per cwt.

GINGER.—African on the spot is 82s. 6d. per cwt., and forward at 75s. c.i.f. Spot quotations for Jamaican are about 105s. for No. 3.

GUM ACACIA.—Kordofan cleaned sorts on the spot are 90s. per cwt.; new-crop, February-March shipment, 82s., c.i.f.

HENNA.—Indian green leaves are about 72s. 6d. per cwt. on the spot, and 70s. c.i.f., forward. Egyptian is 100s., spot.

HONEY.—Firm. Spot supplies of Australian are from 107s. 6d. to 120s. per cwt. as to quantity; Argentine is quoted from 115s. to 125s.; Jamaican is scarce and prices are nominal.

IPECACUANHA.—Nicaraguan for shipment is steady at 40s. per lb., c.i.f., and Colombian, 38s. 6d., c.i.f. Spot quotations are: Nicaraguan, 44s. Colombian, 41s.

JALAP ROOT.—Brazilian is offered on the spot at 2s. per lb.

KARAYA.—No. 1 gum on the spot is easier at 200s. per cwt.; No. 2 is unchanged at 165s.; No. 1, for shipment, is 185s., c.i.f.

KOLA NUTS.—African halves are available on the spot at 4 $\frac{1}{2}$ d. per lb., 3 $\frac{1}{2}$ d., c.i.f.; for shipment.

LIQUORICE.—Natural whole root, spot: Anatolian, 55s. per cwt.; Russian, 50s.; Syrian, 40s. to 42s. 6d. Block juice quotations are from 185s. to 195s., duty paid. Turkish stick is 250s. per cwt., duty paid; Italian stick, 475s. per cwt., duty paid.

MACE.—West Indian pale blade is 7s. 9d. per lb., for shipment, 6s. 9d., c.i.f.

MENTHOL.—Brazilian is 42s. per lb. Chinese, 55s., both duty paid on the spot. Shipment: Brazilian, 40s.; Chinese, 50s., both c.i.f.

PEPPER.—White Sarawak on the spot is offered at 10s. 9d. per lb., ex wharf; afloat, 10s. 3d., and February-shipment at 10s. 1 $\frac{1}{2}$ d. c.i.f. Black Malabar, 1,070s. per cwt., spot, and Black Sarawak, 9s. 3d. per lb.

PODOPHYLLUM.—*Emodi* root on the spot is 170s. per cwt. *Peltatum*, 336s.

QUASSIA.—Chips on the spot are available at 35s. per cwt.; forward offers are 31s., c.i.f.

QUILLAIA.—Forward rates for whole bark are £95 per ton, c.i.f. Spot, £125.

SARSAPARILLA.—Jamaican native red is 2s. 7d. per lb. for 1-cwt. parcels. Shipment is 2s. 1 $\frac{1}{2}$ d., c.i.f.

SEEDS.—**ANISE.**—Spot, Cyprus, 145s. per cwt.; Turkish, 145s., duty paid, and 132s. 6d. in bond. **CARAWAY.**—Dutch are nominal at 90s., duty paid, spot London.

CELERY.—Indian are unchanged at 1s. 10 $\frac{1}{2}$ d. per lb., spot London. **CORIANDER.**—Spot prices are: Morocco, 35s. per cwt., duty paid, and 32s. 6d., in bond; English, 70s. Shipment: Morocco are inclined to be a little easier at 33s., c.i.f., London.

CUMIN.—Spot, Cyprus, 145s. per cwt.; Indian, 170s.; Malta, 175s.; Morocco, 160s., duty paid. **DILL.**—Indian continues to offer at 80s. per cwt., spot London. **FENNEL.**—Spot, Indian, 200s. per cwt., and mid-European, 190s., duty paid. **FENUGREEK.**—Morocco, 42s., duty paid. **MUSTARD.**—English, 77s. 6d. to 95s. per cwt., according to quality.

SHELLAC.—Firmer. Spot quotations are:—F.O.T.N., pure, 177s. 6d.; F.O. standard No. 1, 192s. 6d.; fine orange, 215s. to 265s. per cwt., ex-London warehouse.

SLIPPERY ELM BARK.—Selected slabs are 4s. per lb., and grinding quality, 3s. 3d. per spot.

TRAGACANTH.—Unchanged. No. 1 ribbon on the spot is £130 per cwt.; No. 2, £110; No. 3, £80.

TURMERIC.—Madras finger on the spot is 65s. per cwt., and from 61s. 6d. to 62s. 6d., c.i.f., is quoted for new-crop.

WITCH HAZEL.—Leaves are from 1s. 6d. per lb., landed terms.

Essential and Expressed Oils

ANISE.—Spot supplies are offered at from 7s. 3d. per lb. for original drums, and for shipment, 6s. 10 $\frac{1}{2}$ d., c.i.f.

BAY.—W. Indian is 9s. 6d. per lb. on the spot.

BERGAMOT.—Spot value is about 90s. per lb.

BIRCH TAR.—Rectified is about 14s. per lb. in 1-cwt lots.

BOIS DE ROSE.—Brazilian on the spot is 30s. per lb.

CADE.—Supplies of Spanish are from 2s. per lb., ex warehouse, London.

CAJUPUT.—Spot supplies are 22s. 6d. per lb.

CAMPHOR, WHITE.—Chinese is 3s. 3d. per lb., on the spot.

CANANGA.—Supplies to come forward are quoted at from 60s. per lb., c.i.f. Java is available on the spot at 72s. 6d. per lb.

CARAWAY.—English-distilled is offered at 45s.; imported oils are from 25s. per lb. for spot.

CARDAMOM.—Offers are from 275s. to 280s. per lb.

CASTOR.—In minimum 2-ton lots the price of pharmaceutical quality for prompt delivery is £191 per ton, naked, ex mill. For March delivery the price is £186; April, £176; May-June, £171. FIRSTS are £6 per ton lower in each case.

CEDARWOOD.—Spot quotations for African are from 5s. per lb.

CHENOPODIUM.—1-cwt. lots are 68s. per lb.

CINNAMON.—B.P. oil on the spot is quoted at from 65s. to 70s. per lb. English bark oil is offered at 20s. per oz. Ceylon leaf is about 10s. 9d. per lb.

CITRONELLA.—Spot prices for original drums are: Ceylon, 3s. 5d. per lb.; Formosa, 3s. 8d. in bond; Java, 4s. in bond. Forward: Ceylon, 3s. 3d.; Formosa, 3s. 5d., and Java, 3s. 10 $\frac{1}{2}$ d., all c.i.f., February shipment.

COD-LIVER.—Medicinal, B.P., is 10s. 6d. per gall. in charged returnable drums. Veterinary is from 9s. 6d. per gall.

CUBEB.—English-distilled is offered at from 50s. to 55s. per lb. Imported is quoted at 60s. per lb.

EUCALYPTUS.—Drum lots of 70 to 75 per cent. eucalyptol on the spot are 4s. 3d. per lb., and 80 to 85 per cent., 4s. 8d.

GERANIUM.—Firm. Bourbon on the spot is from 70s. per lb.

GINGER.—English-distilled oil is from 120s. per lb. Imported oils are available at from 85s. per lb.

LEMON.—B.P. (4 per cent. citral) on the spot is about 45s. per lb.

LEMONGRASS.—Firm. East Indian is 7s. 3d. on the spot and 7s. 3d. per lb., c.i.f.

NUTMEG.—English-distilled oil is about 37s. per lb. Imported oil (B.P.) is offered at 25s. per lb., duty paid, for drum lots.

ORANGE.—Spot offers for sweet vary as to quality and quantity from 11s. to 13s. per lb.

OTTO OF ROSE.—Turkish is from 325s. per oz., and Bulgarian, 450s., nominal, spot.

PALMAROSA.—East Indian is from 42s. 6d. per lb., on the spot.

PETITGRAIN.—Paraguay on the spot is from 18s. 6d. per lb.

PINE.—*Pumilio* on the spot is from 16s. per lb.; *sylvestris*, 9s.; Siberian (*abietis*), 13s.

SANDALWOOD.—Mysore is 69s. per lb. on the spot for about 1-cwt. lots.

SASSAFRAS.—Brazilian natural is offering at 6s. 3d. per lb., duty paid, and 4s. 9d., c.i.f.

WORLD TRADE

Norwegian Drug Monopoly. — The Norwegian Parliament passed on February 6 a bill to form a State monopoly for the import and wholesaling of drugs and medical preparations.

Swiss Exports in 1952. — In 1952 Swiss exports of pharmaceuticals increased slightly to 292.4 million francs from 287.5 million in 1951. Perfumery declined to 29.5 million francs (43.9 millions).

Pakistan Barter Decision. — The Pakistan Government has announced that it would consider barter deals for exportable commodities such as cotton, in exchange for certain essential items including chemicals, drugs and medicines.

German Trade Mark Banned. — The Tripartite Allied Farben Control Office (TRIFCOG) has banned the use of all trade marks containing the abbreviation "IG," either alone or in connection with any other letters or words, by the successor companies of the former IG Farben Chemical Combine.

Egypt Site for DDT Factory. — A site has been chosen at Kafir-el-Zayat and considerations being given to the formation of an Egyptian company to contract and operate a factory for the manufacture of DDT. The World Health Organisation is interested financially and technically in the project.

French Export Promotion. — The French Government has announced an extension of its policy of promoting exports by granting tax relief to exporters. Perfumes, medicines, mineral dyes and cocoa butter are among a number of articles which formerly benefited from an overall reimbursement of 5.45 per cent. now receive 8.72 per cent.

Spirits Controls in Persia. — The Persian Majlis (Lower House) has passed the third reading of a bill seeking to prevent the manufacture, import, sale or consumption of alcoholic drinks and opium in Persia. The bill exempts the manufacture and use of alcohol for medicinal purposes and calls on the Government to frame the necessary regulations within six months.

Indian Import Policy. — The Indian Government's import policy for the first half of the year follows broadly the pattern of the half-year just ended, but cuts previously made in about 30 per cent. of items have been partially or fully restored. Amongst them are infant foods, drugs and medicines. A small quota of licences (10 per cent. of the best year's imports) are being issued for perfumed spirits.

Pharmaceuticals in Iraq. — A report published by the Special Register Information Service of the Board of Trade has reviewed the market for pharmaceuticals. With an allocation of over £2 millions from the Budget and an annual expenditure of over £700,000 by the Development Board, the Health Service in Iraq is expanding to keep pace with the improvements in the standard of living brought about by the development programme now in operation. The report points out that there is increasing competition from foreign firms and suggests ways of expanding U.K. sales.

COMING EVENTS

Items for inclusion under this heading should be sent in time to reach the Editor not later than first post on Wednesday of the week of insertion.

Monday, February 16

CROYDON PHARMACISTS' ASSOCIATION AND BRANCH, Swan and Sugar Loaf Hotel, South End, Croydon, at 8 p.m. Dr. J. M. Rowson (curator of the Pharmaceutical Society's museum) on "The British Pharmaceutical Conference, 1953" and discussion on the draft revised statement on professional conduct.

HENOON AND EDGWARE BRANCH, PHARMACEUTICAL SOCIETY, Brill's restaurant, 206 Station Road, Edgware, at 8 p.m. Mr. G. A. Stephens (medical department, The British Drug Houses, Ltd.) on "Sex Hormones, Some Recent Advances."

Tuesday, February 17

MANCHESTER BRANCH, GUILD OF PUBLIC PHARMACISTS, Grand Hotel, Manchester, at 6.30 p.m. Dinner and dance.

WEST MIDDLESEX CHEMISTS' ASSOCIATION and BRANCH, Feathers Hotel, The Broadway, Ealing, London, W.5, at 8 p.m. Mr. L. Priest (a member of the Society's headquarters staff) on "Recent Advances in Therapeutics."

Wednesday, February 18

BRIGHTON AND HOVE ASSOCIATION OF PHARMACY and BRANCH, Grand Hotel, Brighton, at 6.30 for 7 p.m. Annual dinner and dance.

EXETER BRANCH, PHARMACEUTICAL SOCIETY, Pavilion Ballroom, Exmouth, at 7.30 for 8 p.m. Annual dinner and Coronation Ball.

GLASGOW AND SOUTH-WESTERN SCOTTISH BRANCH, PHARMACEUTICAL SOCIETY, Institute of Chartered Accountants of Scotland, 220 St. Vincent Street, Glasgow, at 7.30 p.m. Mr. T. Heseltine (vice-president of the Society) on "The Code of Ethics and Other Matters of Moment in Pharmacy."

REGISTERED PHARMACISTS' UNION, 17 Bloomsbury Square, London, W.C.1, at 8 p.m. Annual meeting.

SCHOOL OF PHARMACY, UNIVERSITY OF LONDON, chemistry lecture theatre, London School of Hygiene and Tropical Medicine, Keppel Street, London, W.C.1, at 5.30 p.m. Sir Henry Dale on "The Future of Pharmacy and Pharmacology."

SOUTHEND-ON-SEA BRANCH, PHARMACEUTICAL SOCIETY, Garon's banqueting hall, Southend-on-Sea, at 7 for 7.30 p.m. Annual dinner and dance.

WEST CUMBERLAND BRANCH, PHARMACEUTICAL SOCIETY, Central Hall, Workington, at 7.30 p.m. Meeting to elect officers and a committee.

Thursday, February 19

HARROW BRANCH, PHARMACEUTICAL SOCIETY, Oak Hall, Baptist Church, College Road, Harrow, at 7.45 for 8 p.m. Mr. W. A. R. Thomson, M.D., M.B., Ch.B., on "The Newer Antibiotics."

LIVERPOOL CHEMISTS' ASSOCIATION and BRANCH, Adelphi Hotel, Liverpool, at 7.30 p.m. Dr. H. Davis (chief pharmacist, Ministry of Health) on "Current National Health Service Topics."

SHROPSHIRE AND MONTGOMERYSHIRE BRANCHES, PHARMACEUTICAL SOCIETY and NATIONAL PHARMACEUTICAL UNION, Ward's café, Shrewsbury, at 3 p.m. Mr. G. H. Hughes (a member of the Society's Council and of the Union's Executive) on "The Pharmacist and his Veterinary Problems," discussion on "The Code of Ethics" and tea.

THAMES VALLEY BRANCH, NATIONAL PHARMACEUTICAL UNION, Kingston Hotel, Kingston-on-Thames, at 7.45 p.m. Mr. H. Noble (secretary of the Union) is asking "Who Makes Your Decisions?"

Advance Information

LOONON PHARMACY RAMBLERS are walking in the Weald country, North Sussex, on February 22.

ROMFORD BRANCH, PHARMACEUTICAL SOCIETY, is organising a visit to the factory of Glaxo Laboratories, Ltd., Greenford, on February 26. Party is limited. Applications to Mr. J. D. Mackenzie, 77 Bridge Avenue, Upminster, Essex (telephone: Upminster 4452).

SOCIETY OF PHARMACEUTICAL STUDENTS, BELFAST COLLEGE OF TECHNOLOGY, is holding a dance at the Seamen's Club, College Square, Belfast, on February 28.

TRADE MARKS

From the "Trade Marks Journal," January 28

For horticultural and agricultural chemica's (1) ACETOCAL, 712,706, by Laporte Chemicals, Ltd., Luton. TRELCOLAC, 713,257, by Fredk. Tyrell & Co., Bolton.

For pharmaceutical preparations (5)

CAMOQUIN, 703,977, by Parke, Davis & Co., Detroit, U.S.A. ALESAL, 708,412, by Olivier Gaudin, Neuilly-sur-Seine, France. BADIOCLILLIN, 711,774, by Farbenfabriken Bayer, Leverkusen, Germany. BELUMAG, DONNAMAG, 712,927-28, by Multipax Chemicals, Ltd., London, W.1. PEPAGAN, 713,007, by Alcock Products, Ltd., Liverpool. FOLLIGON, 713,118, by Organon Laboratories, Ltd., London, W.C.2. CHIBREX, 713,315, by Laboratoires H. Chibret & Fils, Clermont Ferrand, France.

For astrogenic preparations (5)

VALTESTRIN, 712,191, by Wallace Manufacturing Chemists, Ltd., London, N.W.3.

For insecticides (5)

PETH, PETHION, 712,951-52, by W. J. Craven & Co., Ltd., Evesham.

From the "Trade Marks Journal," February 4

For non-medicated toilet preparations (3)

GOLDEN SHADOWS, 694,939, by Parfums Elyan, Inc., New York, U.S.A. Device of child playing flute, 713,828, by Compagnie Francaise de l'Afrique Occidentale, Marseille, France; and Manchester.

For mouthwashes and tablets for use in the control or elimination of smoking (5) TOBAKEX, 709,657, by Safeguard Sales, Coventry.

For pharmaceutical preparation in tablet form made from brewers' yeast (5) VYMAX, 710,842, by Alec Dawson Perry, Coventry.

For deodorisers in stick form (5)

DEODOSTICK, 710,985, by Tattoo Cosmetics, Ltd., London, E.C.2.

For absorbable dusting-powder for medical and pharmaceutical use (5) BIO-SORB, 711,089, by Ethicon Suture Laboratories, Inc., New Jersey, U.S.A.

PRINT AND PUBLICITY

Advertising Campaigns

WIMSOL, LTD., Keighley, Yorks: Wimso hand jelly. National Press advertising.

THE DABITOFF CO. (LONDON), LTD., 29 Dumont Road, Stoke Newington, London, N.16: Dabitoff. National advertising commences in February.

PARKE, DAVIS & CO., LTD., Staines Road, Hounslow, Middlesex: In animal periodicals for Nema worm capsules.

JEYES' SANITARY COMPOUNDS CO., LTD., Manor Road, Chigwell, Essex: In women's magazines throughout the year. Offer of Jeyes' toilet fitting and toilet paper.

VENTIN & ODONE MEDICINAL PRODUCTS, LTD., Verodo Building, Hampden Road, London, N.10: Venese anti-gastric mixture. National advertising from March.

WHITEWAYS CYDER CO., LTD., Whimple, Devon: Sanatogen tonic wine. Poster advertising.

ENERGEN FOODS CO., LTD., Enrgen Works, Bridge Road, Willesden, London, N.W.10: Enrgen breakfast flakes. Pilot campaign in Norfolk from February 23 to March 28. Advertising in local newspapers and free offer to purchasers of Enrgen rolls.

BRANCH AND ASSOCIATION MEETINGS

HOUNSLOW

Veterinary Drugs

At a meeting of the Hounslow Branch of the Pharmaceutical Society held in Hounslow on January 13, MR. B. C. BRYANT (Imperial Chemical (Pharmaceuticals), Ltd.) spoke on "Modern Drugs in Veterinary Medicine." The speaker surveyed the increasing use of drugs in modern veterinary medicine and stressed the economic importance of that trend and the urgent need for market control and standardisation of veterinary medicines. About £60 million a year was lost in Britain through animal disease. That was accounted for chiefly by losses in meat, wool, leather and milk supplies. Bovine mastitis alone lost twenty million gallons of milk annually. The large proportion of sub-healthy animals called for increased attention to cleanliness, sanitation, immunisation and other preventive measures.

PORTRSMOUTH

Resolutions for N.P.U. Conference

At a meeting of the Portsmouth Branch of the National Pharmaceutical Union held in Southsea on January 20, Miss X. Darling in the chair, MR. TALVAN REES (a member of the N.P.U. Executive) gave an address on "Professional Conduct and Pharmacy Assistants in Relation to Retail Pharmaceutical Practice." Mr. Rees stressed the necessity for a code of ethics. He explained in detail the decisions arrived at by the N.P.U. Executive in respect of the draft revised statement and the proposals on "Assistants in Pharmacy." The Branch appointed the following delegates to attend the N.P.U. Branch Representatives' Conference being held in London on February 26: Miss X. Darling, Messrs. J. C. Bloomfield, P. G. Howes and A. J. Bull, with Mr. L. Page as a deputy. The following resolutions were passed unanimously and forwarded for inclusion in the conference agenda:—

(1) (Proposed by Mr. A. V. L. Dowdeswell) "that it is the opinion of this conference that in view of (a) lack of evidence to support claims made for the activity of chlorophyll derivatives in dental hygiene, (b) certain substantive evidence against such claims and (c) the dangers of masking of primary symptoms of certain dental infections by chlorophyllins, pharmacists should not recommend or display, and should discourage the sale of dentifrices containing chlorophyll until the position has been satisfactorily clarified."

(2) (Proposed by Mr. J. C. Bloomfield) "that it is the opinion of this conference that the N.P.U. Executive should be encouraged to continue its policy of holding regional conferences for the benefit of the members."

(3) (Proposed by Mr. J. C. Bloomfield) "that it is the opinion of this conference that the policy of the Council of the Pharmaceutical Society in connection with the proposed registration of unqualified personnel as 'Pharmacy Assistants' in relation to retail pharmacy should be vigorously opposed."

(4) (Proposed by Mr. S. Isherwood) "that it is the opinion of this conference that the Chemists Federation should notify all members of new pro-

ducts stated by the manufacturers to be 'Chemists Only' and eligible for inclusion in the C.F. List, but the manufacturers of which have either not applied for their inclusion, or whose application has been rejected."

SOUTH SHIELDS

Film Show

FILMS shown to South Shields Pharmacists' Association recently were introduced by MR. F. H. OLIVER (head of the department of pharmacy, Sunderland Technical College). The Imperial Chemical Industries, Ltd., films "Anæsthetics" and "Spinal Anæsthesia," dealt respectively with the techniques of valve puncture (using thiopentone) and for spinal anaesthesia and the effects of solutions having osmotic pressures different from that of the spinal fluid. "Muscle Relaxants" (May & Baker, Ltd.) dealt with the use of curare and Flaxedil in surgery.

BEDFORDSHIRE

Tuberculosis Chemotherapy

AN address on "The chemotherapy of tuberculosis" was given by MR. D. SEYMOUR (research manager, Herts Pharmaceuticals, Ltd.) at a meeting of the Bedfordshire Branch of the Pharmaceutical Society held in Luton recently. Mr. H. W. S. Wynter presided. Mr. Seymour stated that tuberculosis was responsible for 5 to 6 million deaths annually. He traced the types of drugs used against the disease from 1925 up to the present day and mentioned that para-aminosalicylic acid, its derivatives, isoniazid and streptomycin were chiefly used at present. With the aid of lantern slides Mr. Seymour compared the activity *in vitro* and *in vivo* of new drugs, of the PAS type. They were found to be active only if they contained an essential chemical grouping which interfered with the metabolism of the bacillus. Clinically, the best results were obtained from using two or more of the drugs PAS, streptomycin and isoniazid in conjunction. That reduced the possibility of resistant strains of the bacillus. The ideal method of giving PAS was in cachet form.

EPSOM AND SUTTON

Revised Code

AT a meeting of the Epsom and Sutton Branch of the Pharmaceutical Society held in Epsom on January 8, MR. T. REID (a member of the Society's Council) gave an address on "The Draft Revised Statement on Matters of Professional Conduct." Mr. Reid said that the policy of the Society in giving members an opportunity of discussing the statement was to ensure that it would be acceptable. It was hoped that criticisms would be constructive, and that most of the clauses would be agreed in principle. It was by experience that such a code was produced, and it should be revised as often as required so that the pharmacist had some guidance. Some of the clauses were to be deleted, as it had been decided that they would probably not have the effect intended.

In reply to a suggestion that two statements should be drawn up, one a set of rules that could be legally enforced, the other a set of recognised standards which would be of guidance to new entrants, Mr. Reid pointed out that it was not feasible to scrap the whole code at that stage but only the unacceptable parts. To a suggestion that the introduction of the statement would lay down a code enforceable by the Statutory Committee, Mr. Reid pointed out that the code by no means covered every matter of conduct on which a pharmacist could be summoned before the Committee. In a discussion on the control of advertising, as outlined in the code, and on the effect the introduction of the code on the work of the Statutory Committee, the feeling of the meeting was that a code should not be ambiguous.

EAST METROPOLITAN

Malignant Disease Chemotherapy

AT a meeting of the East Metropolitan Branch of the Pharmaceutical Society in Ilford on December 9, MR. H. E. DALE (medical information department of Boots Pure Drug Co., Ltd.) gave an illustrated talk on the chemotherapy of malignant diseases. Members of the British Medical Association (Stratford division) were present.

Mr. Dale explained the essential difference between bacteria and cancer cells, and said that he wished to dispel the fear of cancer by giving information on some of the many advances that had been made in treatment, and to describe the investigations carried out on new compounds to find substances which selectively attack cancer cells. New growths could be induced in experimental animals and compounds likely to be of value in reducing the size of a tumour administered. The reduction in size of tumours was compared with controls and if the compound were relatively non-toxic it was then tested clinically. Enzymes, in particular, phosphatases were present in nearly all the tissues of the body, and enzyme studies had given valuable information in detecting some tumours. Determinations of the acid phosphatase present in the serum were used as an index of the response to treatment and as a guide to the correct maintenance dose in carcinoma of the prostate. Mr. Dale mentioned experiments with the Rous sarcoma virus, which could produce tumours in fowls. Anti-carcinogenic substances might be tested by inoculating eggs containing the virus, the membranes being removed and compared with controls.

The administration of *x*-rays and of nitrogen mustards produces many toxic symptoms, including nausea and vomiting, and Mr. Dale referred to recent work of Bacq and his associates, when he described the good results obtained by the administration of mercaptoethylamine to protect patients against the undesirable effects of *x*-irradiation. Preliminary work by Peczenik indicated that β mercaptoethylamine, provided that it is administered beforehand, effectively protected experimental ani-

mals against toxic doses of nitrogen mustard also.

Mr. J. Reed presided.

COVENTRY AND WARWICKSHIRE Address by Society's Registrar

At a meeting of the Coventry and Warwickshire Branch of the Pharmaceutical Society held in Coventry on January 14, Mr. F. W. ADAMS (registrar of the Society) gave an address on "The Draft Revised Statement on Matters of Professional Conduct." Mr. W. A. Bales (chairman) presided. Mr. Adams mentioned a few of the more controversial items including paragraphs: 1, the scope of pharmaceutical service and 2, conduct of the pharmacy. The latter, he said, would give the Society the right to decide whether a pharmacy was being conducted and maintained in a manner becoming a professional body. The advertising of dispensing (paragraph 3) was not such a vexed question, he said. Paragraph 4 on relations between pharmacists and medical practitioners was generally accepted as were the items on the sale of contraceptives and claims made for medicinal preparations.

MR. W. A. BALES asked who should decide what were "adequate stocks and dignified appearance." The speaker explained that that was not a question of common law but a matter for the Statutory Committee. MR. L. BONHAM asked whether it was to be the responsibility of the Society's inspectors to carry out the task of assessing the merits of a pharmacy. MR. ADAMS replied that they would only report and that the Council would give all the assistance they could to improve conditions rather than take action. MR. W. A. UNDERHILL proposed the following resolution:—

"Whilst this meeting is of the opinion that some form of pharmaceutical control is necessary, it considers the proposed code of ethics is not satisfactory and without prejudice to its views on the other articles of the suggested code it finds paragraphs 2, 4 and 10 not acceptable in their present form."

That was seconded by MR. F. MACBEATH and carried.

GLASGOW

Mental Disease

MR. G. R. MILNE (chairman of the Glasgow and South-western Scottish Branch of the Pharmaceutical Society) presided at a meeting of the Branch in Glasgow, on January 14, when the speaker was Dr. J. T. Curran (group physician superintendent, Lennox Castle Institution), who spoke on "The Social Problem of the Mental Defective."

DR. CURRAN said the public generally had an emotional antipathy towards mental disease. The mental defective differed greatly from the lunatic, the former being lacking in intellectual endowment while the latter possessed a full quota of intelligence which had become warped or twisted. Defectives did not have delusions or melancholia, nor were they maniacs or sufferers from persecution complexes. A great deal of work had been done genetically but it was not proved conclusively that mental deficiency was due

to hereditary causes; a belief that falls in childhood were responsible was not upheld by facts. It sometimes happened that two normal parents produced a mentally defective child and there seemed to be no underlying cause. In the higher intelligence groups, imbeciles and idiots were more common, while in the lower, defective children seemed to be produced as a result of the gradual deterioration in intelligence. Until industrialisation changed the life of the community the feeble-minded person was not recognised as such. With increased mechanisation and greater demands on him he became easily distinguished.

In 1942 juvenile delinquency reached such a high level that the authorities sent forty-five boys from the worst areas in Glasgow to Lennox Castle Institution. In the 1920's there was a theory that children should be allowed to express themselves and that policy was adopted. In three weeks the villa they occupied had no glass in the windows, no stoppers for the wash-hand basins and the children's clothes had no buttons. Punishment was not given and perhaps because the children found their behaviour did not irritate the authorities, or perhaps because there was nothing left to break, the position began to improve. After repairs, no further damage was done. Through interest in climbing and swinging on

trees in the estate, the boys were encouraged in nature study; a visit by first-class scout troop stimulated the interest and it was a boost to their ego to find they were better at scouting than their visitors. Eventually the boys themselves begged to be allowed to form a scout troop. When they became emotionally stabilised there was a complete swing over from rejection to acceptance of authority. The next difficulty was to get them to stand on their own feet. Only when that problem had been surmounted could they proceed to scholastic study.

Attempts have been made from time to time to treat mental deficiency medically. Amphetamine was believed to have a stimulant effect but it was found to make the boys restless.

Replying to a question from PROFESSOR J. P. TODD on corporal punishment, DR. CURRAN said each case must be considered on its merits. To inflict punishment because a child could not grasp its lessons was quite wrong. There was, however, an accepted psychological fact that life held reward as punishment. For really naughty children, short, sharp corporal punishment was effective, but there should be a time-lag between the crime and the punishment. Referring to sterilisation of defectives, DR. CURRAN said it was not established that the bulk of defectives came from defective parents.

LOCAL DINNERS AND DANCES

LEICESTER

Lord Mayor as Guest

MR. C. SAMPSON (chairman) presided over a gathering of over 200 at the annual dinner-dance of the Leicester Branch of the Pharmaceutical Society on January 14. Guests included the lord mayor and lady mayoress of Leicester, Mr. T. Heseltine (vice-president of the Pharmaceutical Society) and Mrs. Heseltine. THE LORD MAYOR paid tribute to pharmacy.

NORTHUMBERLAND

143 present

THE Newcastle and Northumberland Branch of the Pharmaceutical Society held its annual dinner in Newcastle-on-Tyne on January 21. Mr. A. McOlvin Laws (chairman) presided and there was an attendance of 143. The guest of honour was DR. HENRY MILLER, who replied to the toast "The Medical Profession." The reply to a toast to the visitors was made by PROFESSOR W. FISHER CASSIE.

BIRKENHEAD AND WIRRAL

Distinguished Guests

THE Birkenhead and Wirral Pharmacists' Association held its annual dinner and dance in Birkenhead on January 15 when 110 people attended. The guests included Messrs. W. J. Tristram (president of the Pharmaceutical Society), H. Humphreys Jones (former principal of the Liverpool School of Pharmacy), H. E. Chapman (secretary, Proprietary Articles Trade Association), W. J. Nugent (clerk, Birkenhead Executive Council) and Dr. J. W. Lobban (Birkenhead medical officer of health).

MANCHESTER

President's Evening

THE annual whist drive and dinner-dance of the Manchester Pharmaceutical Association was held in Manchester on January 14. 309 people attended. It was "president's evening," and was of special importance as Alderman W. J. Tristram (president of the Pharmaceutical Society) and Mr. D. Hudson (chairman of the National Pharmaceutical Union) were present guests. After the loyal toast, proposed by MR. R. E. PARRY (president of the Association), MR. E. BERRY proposed the toast "The President of the Manchester Pharmaceutical Association." It was gratifying, he said, to see a record meeting to greet him on that auspicious occasion. "Our Guests" was proposed by MR. H. STEINMAN (a member of the Council of the Pharmaceutical Society) who mentioned that it was the first occasion that the Association had had the president of the Society and the chairman of the N.P.U. as guests. MR. TRISTRAM, responding, gave a summary of his visit to America, and told of his visits to one or two of the other branches during the present session. MR. D. HUDSON said that many pharmacists thought that the N.P.U. and the Pharmaceutical Society must have opposing views. Occasionally they had but far more frequently they had not. When their views did oppose the principle that applied was that the pharmaceutical profession came first.

Whist prizes were as follows:—1st, Miss E. Crosley; 2, Mrs. G. Stowell; 3, Mrs. D. Dowty; 4, Mrs. Cronin; 5, Miss Walkden. Gentleman: Mr. Quinn; 2, Mr. Percy Stuart; 3, Mr. John Watson.

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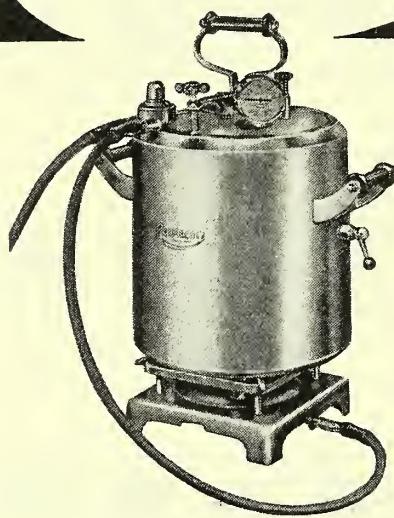


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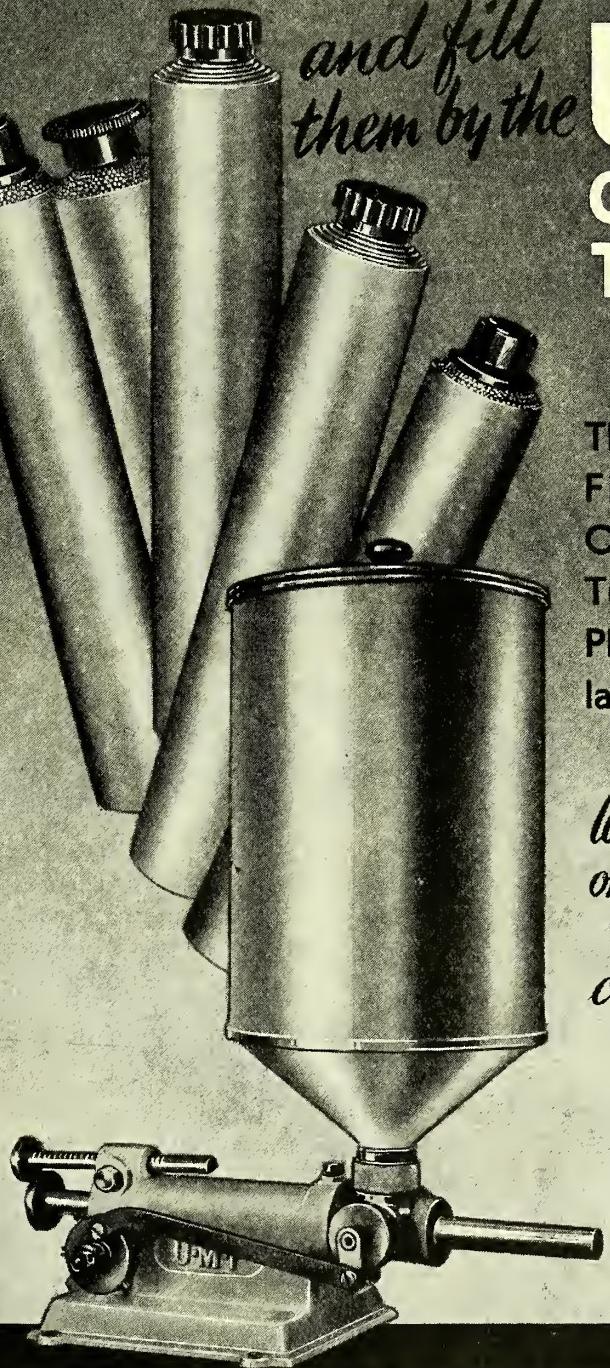
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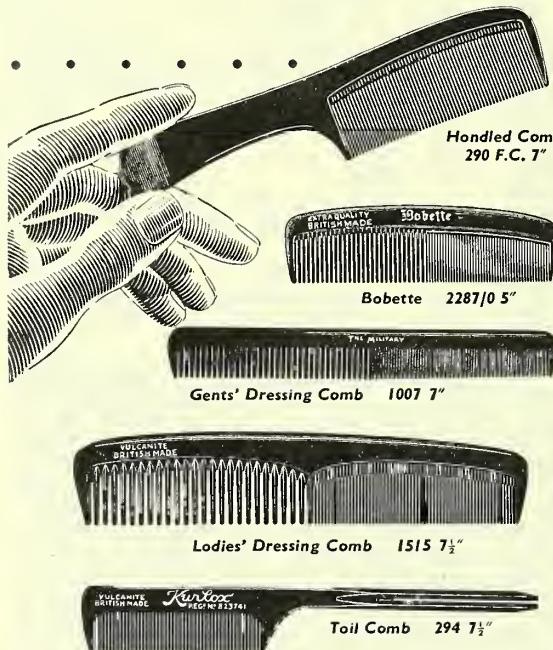
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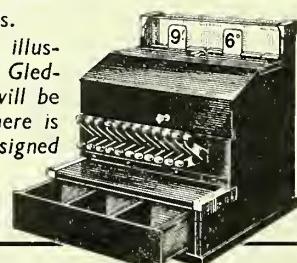
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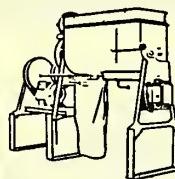


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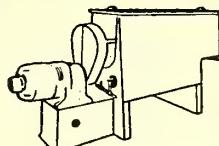
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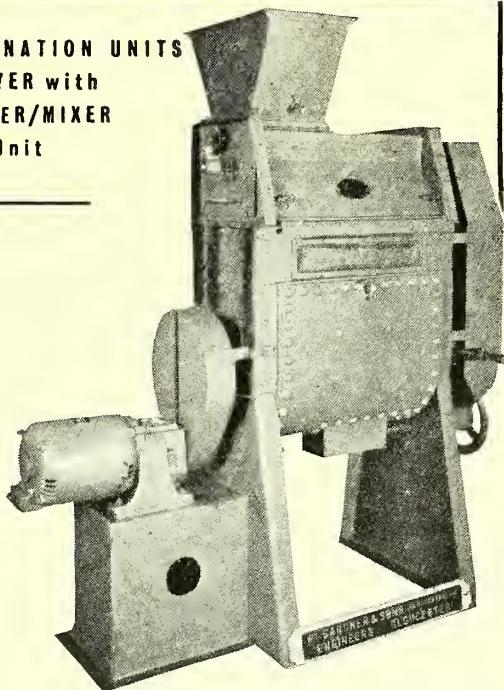
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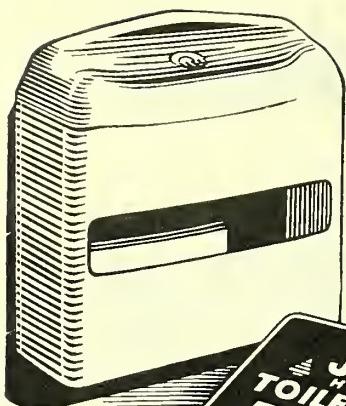
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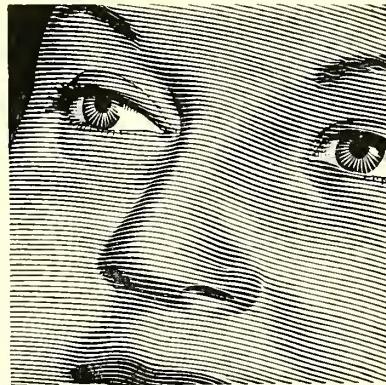
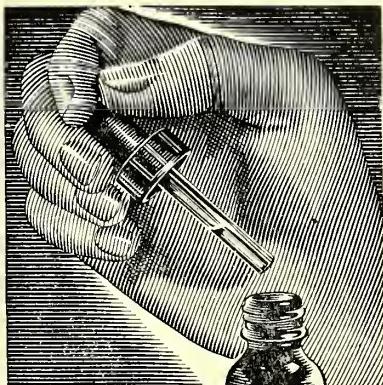
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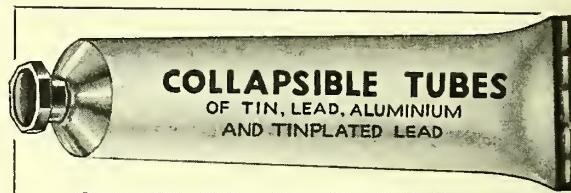
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... and all of them can be weaned on Bovril Brand Beef & Vegetable Weaning Food. This new product is having a huge success. Every day we receive enthusiastic letters from mothers and nurses, telling us how much they like the Weaning Food and that they are recommending it to others.



BOVRIL WEANING FOOD IS SUCCESSFUL because:

It is recommended by doctors and clinics. It is made in hygienic and convenient cube form. It is nourishing and easy to prepare. It is safe. It is economical. It is vigorously advertised.

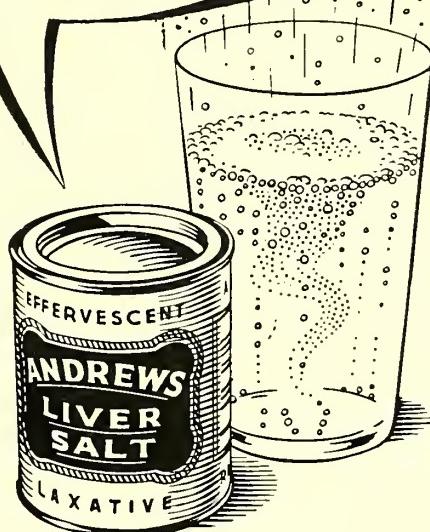
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Weaning Food

RETAIL PRICE
4 CUBE PACKET 6d

*For full particulars of trade terms please write to:—
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it's your biggest ever
publicity too!



THE BIGGEST-EVER publicity campaign for Andrews Liver Salt is now in full swing. Andrews advertisements are seen everywhere — in National Daily and Sunday newspapers and Weekly magazines, on the hoardings, on the sides of buses and in the shops. And remember — this advertising is *your* advertising, if you're an Andrews stockist. Make sure you have adequate stocks of the effervescent saline with the largest sale in the world.

ANDREWS
LIVER SALT

*Some excellent
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lines for
BABIES*



There is always a demand for Baby lines, and a group display of these will bring sales. Our prices are competitive and there is a good profit margin.

	Retail each (inc. tax)	Purchase tax Doz.	Trade price per doz.
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ZINC and STARCH TOILET POWDER, small packets	4½d.	8d.	2/-
Large Sprinkler top drums	1 doz. 6 doz. 12 doz.	1/3 1/3 1/3	2/6 2/6 2/6
			7/6 7/3 7/-
BABY SOAP Cartoned Tablet	11d.	2/1	6/3
SANISQUARES	2/7	—	22/6
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ZINC and CASTOR OIL CREAM	1 oz. Jar 2 oz. Jar 4 oz. Jar 8 oz. Jar 1 lb. Jar	11½d. 1/4 2/1½ 3/7½ —	7/6 10/6 16/9 29/- 3/3lb.

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Phone: BROADWELL 1355 (4 lines)

For easy profits
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BESORBON

— perfect remedy

for colds, catarrh, hay fever, etc.

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for 50 years

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Stocked by principal wholesalers throughout the British Isles.

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The British Patent Perforated Paper Co., Ltd.
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You are invited to
COMPARE PRICE, SHEETAGE and QUALITY
with other brands



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POLYVALENT INTESTINAL BACTERIOPHAGE

Enterofagos

The biological answer

ENTEROFAGOS is one of the series of M.B.L. preparations which enjoy the confidence of the Medical profession in this country and overseas. By prolonged laboratory and clinical tests it has been established as the biological answer to most intestinal, para-intestinal, kidney and bladder infections.

ENTEROFAGOS contains the active bacteriophages against Staphylococci, Streptococci, B. coli, B. Typhosus, B. paratyphosus, B. dysenteriae and Enterococci. Whatever the dosage, it can be given to adults or children without fear of harmful reactions, and this combination of efficacy and safety makes ENTEROFAGOS the ideal treatment for the infective conditions indicated.

The preparation is contained in ampoules to be taken orally according to the instructions supplied.

Indications

Most cases of Diarrhoea respond rapidly to treatment with ENTEROFAGOS. Colitis, Enteritis, Enterocolitis, Typhoid and Paratyphoid Fevers, Bacillary Dysentery, B.Coli Infections, Food Poisoning are equally responsive to its treatment.

MBL

MEDICO-BIOLOGICAL LABORATORIES LTD.
CARGREEN ROAD, SOUTH NORWOOD, LONDON, S.E.25

The new perfume for 1953

TWENTY ONE BY

Goya

GOYA "21"—the very name suggests a celebration!

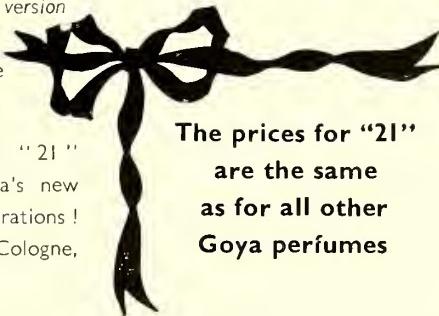
This new Goya perfume is being launched with a bubbling advertising campaign that's brilliant with full-colour pages, innumerable black and white spaces and far-reaching publicity. "21" is "a perfume to have fun with", made in the Goya tradition of fine perfume—it is a perfume that women will try, buy—and buy again.

Rene Gruau of Paris designed the packages and the advertising motif.

"21" comes in a new, smarter version of Goya's famous handbag phial.

A perfume tester stand for "21" will be supplied with every order for Goya's new perfume.

The first exciting, eye-catching advertisements for "21" appear in mid-February. Display "21" with Goya's new special display material and join in the celebrations! To match Goya "21" Perfume—Perfumed Cologne, Bath Luxuries, Talc and Soap.



**The prices for "21"
are the same
as for all other
Goya perfumes**

GOYA 161 NEW BOND STREET LONDON W1

The one chemical almost everybody uses



IN a very real sense acetyl salicylic acid BP is one of the most important pharmaceutical products in the world. It is the most widely used, the simplest, and, because it costs so little, the most accessible. Everybody can afford it.

Monsanto is one of the largest producers and suppliers of acetyl salicylic acid BP to the world's manufacturers. Its absolute purity

never varies — thanks to rigid standards of manufacture and analysis control.

Monsanto acetyl salicylic acid is in plentiful supply. You can have it in powder, in crystals, or in granular form (ASPIRGRAN*) ready for tabletting. Because of high scale production of raw materials you can



**Among chemistry's
answers to pain, stress
and strain—acetyl salicylic
acid BP is apt to be
taken for granted.**

as much as you need, whenever you need it.
ther Monsanto pharmaceutical products in full
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HYL SALICYLATE BP	SALICYLAMIDE BP
CYCLIC ACID BP	PHENACETIN BP
UM SALICYLATE BP	PHENOL BP
ICAL SALICYLIC ACID	P.C.M.X.
ZOIC ACID BP	P.C.M.C.
UM BENZOATE BP	CRESANTOL* 15
NOLPHTHALEIN BP	CRESANTOL* 3

For full details, please write General Chemicals Sales Department, Monsanto Chemicals Limited.

(*Registered Trade Marks)

**MONSANTO CHEMICALS
LIMITED**
Victoria Station House
Victoria Street, London, S.W.1



In association with : Monsanto Chemical Company, St. Louis, U.S.A. Monsanto Canada Limited, Montreal. Monsanto Chemicals (Australia) Ltd., Melbourne. Monsanto Chemicals of India Ltd., Bombay. Representatives in the world's principal cities.

Quality
**in White Flint Glass
 Containers**



DISPENSING BOTTLES

1-oz. to 20-oz.

RIBBED OVALS

$\frac{1}{2}$ -oz. to 16-oz.

TABLET BOTTLES

Nos. 1 to $7\frac{1}{2}$ sizes.

ROUND SCREW JARS

Tall and Semi-squat.

BOW-FRONT PANELS

1-oz. to 8-oz.

PANELLED FLATS

1-oz. to 4-oz.

VIALS

$\frac{1}{2}$ -oz. to 3-oz.

OLIVE OIL BOTTLES

$2\frac{1}{2}$ -oz., 5-oz. & 10-oz.

WHOLESALE ONLY

TRADE  MARK

- Prompt delivery from stock
- Packed in easily handled cartons

**NATIONAL GLASS
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 TEL HOLBORN 2146

**NOW all the
DABitoff
you WANT
—and you'll
want plenty!**

The only dry-cleaner with a PATENT CLEANING PAD!

It's been a top seller for years — *when* you could get it!

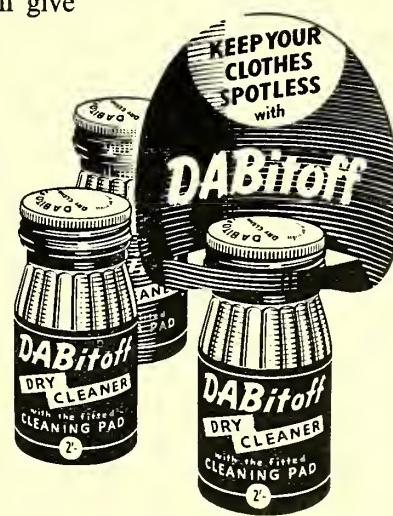
Now you can have enough DABitoff for all your old customers—and for the thousands of new ones that National advertising will bring in.

Regular hard-hitting publicity starts in February. And there's eye-catching display material ready to support it. Together they'll give

DABitoff that extra push that will keep it on the move all season!

YOUR SUPPLIER'S
THE MAN NOW!
CONTACT HIM
STRAIGHT AWAY

**SELLING AT
2/- PER BOTTLE**



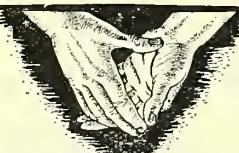


The makers of
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the Chlorophyll hand cleansing jelly
advertised in National Newspapers
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Wimzo sells to mechanics, engineers, and all who do dirty jobs; plus motorists and motor-cyclists. Wimzo is a fast-acting, non gritty and gentle emollient which floats grease and dirt to the surface from every pore to leave hands scrupulously clean.

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MIDAS ANTI-SMOKING TABLETS

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Attractive Show Cards
With All Orders.

After articles in
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large public de-
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Ammonium Carbonate

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Cresylic Acid · Coal Tar Disinfectants

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Synthetic Detergents · Naphthaline

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Established 75 years

An Announcement to our Customers in Flooded Areas

Now that you are able to review the extent of the Flood Damage as it affects your business, I invite you to inform me how we can assist you to minimise the loss you have sustained.

Our Associated Manufacturers have offered to recondition any damaged stocks returned to this Company, and I shall be pleased to give personal consideration to any requests which will assist you until the return of normal business conditions.

J. C. GAMBLE,
Managing Director.

J. C. GAMBLES & CO. LTD.
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Expert Guidance in . . .

TRUSS FITTING

Under the National Health Service these appliances can be ordered on EC 10 forms.

Pharmacists should be fully acquainted with the practical details involved in the supplying and fitting of them.

The informative series of articles on the subject recently published in "The CHEMIST AND DRUGGIST" have been reprinted in booklet form, "THE FITTING OF TRUSSES AND ELASTIC HOSIERY", which provides full information in concise detail. Copies should be handy for reference purposes in every pharmacy.

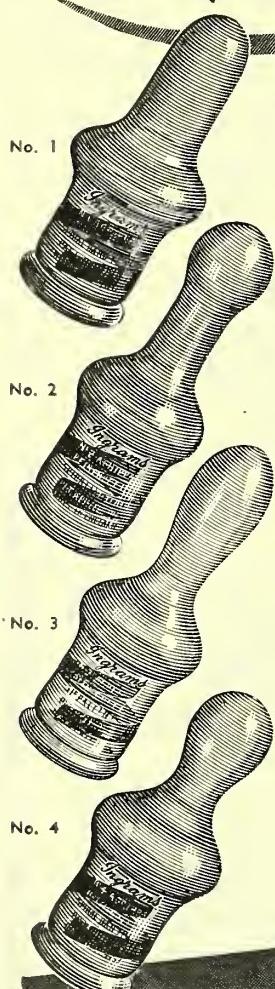
Supplies are now available at the following prices :—

Single copies 1/6 post free. 1 doz. copies . . . 1/4 each post free.
2 doz. copies . . . 1/3 each post free. 50 copies or over 1/- each post free.

Orders with remittance to the Publisher

The CHEMIST AND DRUGGIST
28 ESSEX STREET, STRAND — LONDON, W.C.2

A new
Ingram's teat
for 8d



No. 4

No. 1

No. 2

No. 3

Ingram's now introduce a green band spiral teat which retails at 8d. This new teat combines all the safety features of its famous predecessors, is made of the finest rubber, will withstand repeated sterilisation in boiling water, and is TESTED FOR FLOW. It is available in four distinct shapes to suit all babies. Individually packed in attractive display cartons, these new teats deserve the most prominent position on your counters and in your windows. An intensive publicity campaign is now in full swing. Bold, telling advertisements in the leading women's journals, reaching hundreds of thousands of potential customers, mean big business for all stockists. Tie in with this forceful advertising by displaying Ingram's Teats in your window and on your counter . . . but be sure your stocks are adequate!



ENSURES safe FEEDING

A wonderful
addition to the
Inecto range . . .

INECTO

FOUR-IN-ONE SERIES

Specially prepared for dealing with drab or faded hair or just that *touch* of greyness. Colours permanently, brightens and conditions—in one application.

★ 11 lovely NEW shades :

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| 14 Blue Black | 19 Bright Auburn |
| 15 Dark Brown | 20 Golden Brown |
| 16 Medium Warm Brown | 21 Light Bronze |
| 17 Light Chestnut | 22 Honey Blonde |
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IN ATTRACTIVE HOME PACK
Price 5/- Wholesale (inc. 2s. 6d. P.T.), 6/- Retail

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Regent 7541 (12 lines)



Steiner Announcement

We wish to inform the trade that Steiner hair beauty preparations will not be available from wholesalers after the 2nd February 1953.

This Company is establishing a selective policy, which means that Steiner hair beauty preparations can be purchased by the public only from appointed Steiner stockists.

During 1953 this Company will carry out the largest nation-wide advertising campaign in its history to work exclusively for appointed Steiner stockists.

We shall welcome enquiries from high-class chemists—please write or telephone the Sales Manager, Steiner Products Ltd., Sales Division, 13 Swains Lane, London, N.6, telephone number Mountview 4454/5.

Cardophylin
REGD.
BRAND OF THEOPHYLLINE-ETHYLENEDIAMINE

in the treatment of

- * ANGINA PECTORIS
- * BRONCHIAL ASTHMA
- * CORONARY THROMBOSIS
- * CHEYNE-STOKES RESPIRATION

Distributed by:

BENGER LABORATORIES LTD
HOLMES CHAPEL CHESHIRE

for the manufacturers,
WHIFFEN & SONS LTD

TABLETS

(each containing 0.1 gram)
Containers of
20, 100, 250 and 1,000

SUPPOSITORIES

(each containing 0.36 gram)
Boxes of 10 and 50.

AMPOULES for
INTRAMUSCULAR
administration

(0.48 gram in 2 c.c.)
Boxes of 6 and 50.

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INTRAVENOUS
administration

(0.24 gram in 10 c.c.)
Boxes of 5 and 50.

Benger Laboratories

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VOLUME 2

Volume 2 contains new material and methods for providing infallible ways of complying with poisons law requirements. Every "authorised seller of poisons" is obliged to observe the laws concerning their sale. Faced, however, with the many complex obligations governing poisonous substances, busy pharmacists have been known to dread a visit from the Society's Inspector, lest they have unknowingly transgressed. It is to simplify their task and enable them to supply poisons without the slightest anxiety that Volume 2 of THE CHEMIST AND DRUGGIST POISONS GUIDE has been produced. This invaluable work, which presents a wealth of vital information, clearly classified and easy to follow, is, indeed, an essential to every pharmacist.

100 pages of new explanatory matter deal with the wholesale and retail sale of poisonous substances to traders, doctors and the public.

Roughly the same amount of space is devoted to the consolidated provisions which are otherwise unavailable in their entirety. Chapter and verse are provided to substantiate the explanations given.

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- Elucidates the law relating to poisons and Dangerous Drugs.
- Co-ordinates the requirements and ranges them in a series of "key" classes.
- Clarifies and explains the provisions.
- Systematises registration and labelling requirements for each individual article.
- Indicates, by means of annotations and special type, the origins of all changes since 1933.
- Contains over 7,000 references.

Price 40/-

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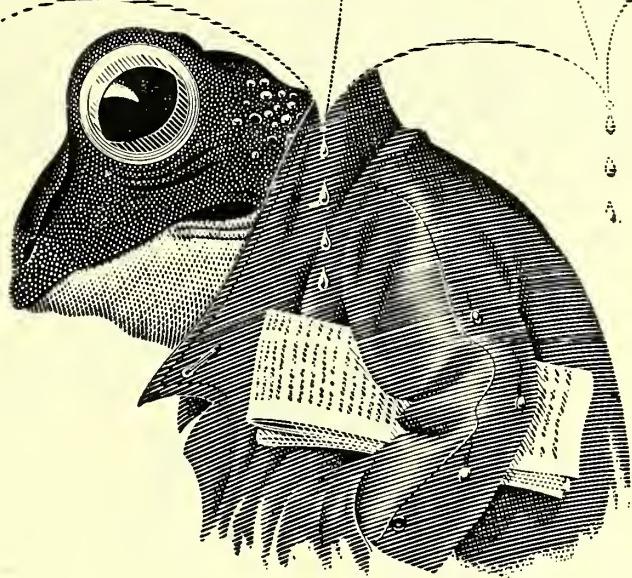
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The
CHEMIST AND DRUGGIST

28 ESSEX STREET · STRAND · LONDON · W.C.2

Attention-compelling, nationally advertised 'croaky' is creating a bigger demand than ever for Kilkof and Kilkof-Kones. No comparable proprietary has so quickly captured the public's interest. None offers you so high a percentage of profit. Reap the benefits of the ever-increasing Kilkof goodwill. It means rapid turnover and repeat sales as well as handsome rewards.

CROAKY?



SELL **KILKOF** and **KILKOF-KONES**

MADE BY PARKINSONS LTD. MANUFACTURING CHEMISTS, BURNLEY



Have you seen

THIS

new beautifully designed
show card size 23" x 17½"
in 6 bright colours?

Supplied with two side panels each 17" x 10½" the whole making an attractive window display, or can be used separately as counter show cards.

NOW IS THE TIME

to make a window display and ensure a steady flow of repeat orders for
"AUTUMN SUN,"
the Malt and Oil with the taking flavour.

The complete set is FREE; ask our representative or write direct, sent post free.

EDME LIMITED

IMPERIAL HOUSE

84-86, REGENT STREET, LONDON, W.1.

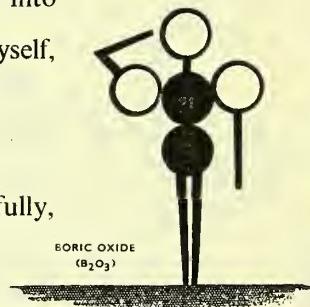
Works: Mistley, Essex.



Dear Sir...

... INTRODUCING myself should hardly be necessary seeing that so many already know my relation to borax, boric acid and a host of other boron products used in industry and in the home. The time has arrived, however, for me to come out into the limelight and say something more about myself, where I am found, what I do and how I do it.
I hope my messages will interest you.

Yours faithfully,



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The CHEMIST AND DRUGGIST

SUPPLEMENT

Head Office : 28 Essex Street, Strand, London, W.C.2.

Telephone: Central 6565.

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CLASSIFIED ADVERTISEMENTS MUST BE PREPAID. For rates see sectional headings

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Box 2/-

EXETER, FOR SALE. Modern pharmacy, well fitted and stocked. Situate in large residential area in suburb of city. Turnover £4,000 approx. Property open for sale or rent. Further particulars on application to A. C. Milton, Cherry Hinton, Wowford Road, Exeter. C 3192

WEST END beauty house with a small but exclusive mail order business. The company is limited, has small stocks of raw materials, formulae, and is offered complete. Excellent opportunity to acquire a small established firm and build it up. Price £500 complete. Box No. A.C. 78908, Samson Clarks, 57-61 Mortimer St., W.1. C 5008

WHOLESALE CHEMISTS (limited company) covering North of England are open to dispose of their business. Satisfactory reasons for sale. Good lease available if desired. Box C 3181.

APPOINTMENTS

18/- per half-inch (min.) and pro rata.
Box 2/-

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Part-time Assistant in Dispensing required for five half-day sessions per week. Hall Certificate. Whitley Council salary and conditions. Apply, with full particulars, to the Secretary, H.M.C. Forest Group, Langthorne Rd., E.11. C 5020

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PHARMACIST required. Salary £450 at age 23 x £25 to £575 plus £25 for additional recognised qualifications. Whitley conditions.

Applications, giving full particulars and the names and addresses of two referees to the Secretary of the Management Committee at Chase Farm Hospital, the Ridgeway, Enfield, Middlesex, by February 20, 1953. C 5055

KINGSTON HOSPITAL, WOLVERTON AVENUE, KINGSTON-UPON-THAMES

Applications are invited for the appointment of Senior Pharmacist at the above Hospital to supervise the production of sterile solutions and other preparations. Salary on the scale £525 x £25 to £625 plus London Weighting; conditions of service in accordance with the recommendations of the Pharmaceutical Whitley Council.

The appointment will be vacant on March 2, 1953, and applications, together with the names of two referees, should be sent as soon as possible to the Physician Superintendent.

C 5022

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LOCUM PHARMACIST (qualified) wanted immediately. Write Group Secretary. C 144

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(CATEGORY V)

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Applications are invited for the position of SENIOR PHARMACIST with duties mainly at the Westminster Branch in High Holborn, W.C.1. Salary in accordance with the Whitley Scale (£525 x £25 x £625), together with London Weighting and an additional £25 for a higher qualification. Applications, accompanied by copies of testimonials, to be sent to the CHIEF PHARMACIST at City Rd. C 9993

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MANAGEMENT COMMITTEE

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SITUATIONS OPEN

8/6 for 36 words (min.) then 3d. per word.
Box 2/-

The engagement of persons answering these advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 inclusive or a woman aged 18-59 inclusive unless he or she, or the employment, is excepted from the provisions of the Notification of Vacancies Order, 1952.

RETAIL (HOME)

EASTERN SUBURBS. Applications are invited from pharmacists wishing to be considered for branch management in the pleasant suburban areas of Woodford and Ilford. Living accommodation if required. Generous salary and commission. Good supporting staffs and modern, well-planned shops. Permanent posts with promotion prospects, superannuated. Apply, in first instance, giving details of experience, etc., and stating when available for interview to Superintendent Chemist, Grange Rd., Leyton, E.10. C 3210

EXPERIENCED lady or gentleman required for drug store, London, E.10, district. Encouraging prospects and remuneration to interested and capable person. Please write with full particulars to Box C 3207.

184

STRAND,

W.C.2

Tel.: TEMple Bar 9212/3 & 6340

BATLEY, Yorkshire. Qualified Assistant required for Central Pharmacy Department. Salary to be negotiated according to age and experience. Superannuation Scheme, 44 hour week, ideal working conditions. Applications to the Secretary and Executive Officer, Batley Co-operative Society, Ltd., Commercial Street, Batley. C 3185

FAMILY AND SHIPPING CHEMISTS, N.E. Coast, require qualified man, keen and energetic, able to assume managerial control; young man preferred. Good prospects for right man, including percentage of net annual profit (guaranteed minimum £75). Write, stating salary expected, to Box C 3190.

HAYES, MIDDLESEX. Excellent opportunity for experienced pharmacist to manage family type dispensing branch in pleasant area. Adequate supporting staff, well-fitted shop with modern dispensary. Substantial salary and commission, plus rota duty payments. Good living accommodation above shop with garden and garage. Permanency with superannuation benefits. Apply, in first instance, giving details of experience, etc., and when available for interview, to Box C 3209.

HEREFORD. Assistant, either sex, required, mainly dispensing, but with good general experience. Apply, Lewis Smith (Chemists), Ltd., 3 High Town, Hereford. C 3203

HOLBORN, W.C.1. Young lady required for toilet counter, with or without previous experience. Saturday half-day; salary according to age and experience. Apply to Mr. J. Milner, A. R. Cross, Ltd., 240-1 High Holborn, W.C.1, or telephone Holborn 7379 for an appointment. C 3172

LONDON CO-OPERATIVE CHEMISTS, Ltd., have vacancies for experienced unqualified men to train as drug store managers. Applicants should have business ability and be keen salesmen with a knowledge of photography. Good salary according to results obtained. Permanencies with participation in pension fund. Apply, with full details of experience and stating when available for interview, to Superintendent Chemist, Grange Rd., Leyton, E.10. C 3211

NEAR STRATFORD, LONDON. Pharmacist, lady or gentleman wanted to manage branch. Would suit one of middle age. Please send full particulars and state salary desired to Box C 3208.

PETERBOROUGH. Pharmacist required to manage new branch. Attractive self-contained flat with garden available. Permanency with superannuation scheme. Apply, stating age and usual details to Peterborough Co-operative Chemists, Ltd., Park Road, Peterborough. C 3159

SCOTLAND: Pharmacist wanted to manage pharmacy branch in Portree, Isle of Skye. Good salary with superannuation scheme in operation. Five apartment villa with bathroom, electric light, available at reasonable rent. Applications in writing, stating age, experience and when available for interview to : Mr. W. S. McBeath, M.P.S., Technical Supervisor, Retail Drug Dept., S.C.W.S., Ltd., 187 Bogmoor Road, Shieldhall, Glasgow, S.W.1. C 5027

Situations Open—Continued

QUALIFIED ASSISTANT required for a City Pharmacy, easy hours half-day Saturday. Apply Box C 3199.

TWO MALE dispensing assistants required. Applicants must possess a thorough knowledge of dispensing and be accustomed to heavy N.H.S. prescriptions. Preference will be given to those who have served a good apprenticeship. Excellent working conditions in well-equipped dispensaries. Good salary and commission to the right men. Apply to E. N. Holding & Co. (Chemists), Ltd., 246 Oxtow Lane, Dagenham, Essex. C 3162

UNQUALIFIED JUNIOR ASSISTANT required for a busy pharmacy just outside London. Counter and window-dressing. Apply Box C 3200.

UNQUALIFIED LADY ASSISTANT required for counter and general shop duties in family type dispensing and cash business. Ability to read prescriptions an advantage. Hours 9 a.m. to 1 p.m., Wednesday half-day but additional half-day available for industrious co-operative employee. Write, details of salary expected, experience, etc. Coleman, Chemist, Fetcham, nr. Leatherhead. C 3178

WEMBLEY AREA. Branch manager, pharmacist required for good dispensing business in nice suburb. Compact living accommodation away from shop with two bedrooms, etc. Excellent opportunity for ambitious man to make good progress with progressive organisation. Permanency with pension fund. Apply, in first instance, giving full details of experience, etc., and stating when available for interview to Superintendent Chemist, Grange Rd., Leyton, London, E.10. C 3212

YOUNG recently qualified pharmacist required to manage old-established branch shop. Interesting post for someone with modern ideas. Permanency. D. S. Benton, M.P.S., High Street Pharmacy, Ramsey, Huntingdonshire. C 3204

LOCUMS WANTED

CAMBRIDGE, locum, lady or gentleman, required for the two weeks July 18 until August 1. Masons (Chemists), Ltd., 28 and 30 Norfolk St., Cambridge. C 3175

LOCUM LIGHT DUTIES. March 23 for two or three weeks. Full supporting staff. Suit elderly qualified person. Thompson, 47 Broadway, Crouch End, London, N.8. C 3221

LOCUM PHARMACIST required for the holiday season extending from April to October, with prospect of permanent managerial position on completion of relief duties. Special rate of salary. Apply, giving full particulars to the Staff Manager, Royal Arsenal Co-operative Chemists, Ltd., 71 Powis Street, Woolwich, S.E.18. C 5003

LOCUM REQUIRED for small pharmacy, Hampstead, for 5-week period commencing July 6. Replies to 50 Islington Park Street, N.1. C 3214

QUALIFIED LOCUM required mid. July to end of August, three shops in Watford area. Please state terms. Chaters, 129 High St., Watford. C 3221

RETAIL (OVERSEAS)

PROGRESSIVE firm in healthy British Colony requires immediately alert, single, young qualified assistant (M.P.S.). Knowledge of optics an advantage. Post offers excellent opportunities for advancement. Salary for first term of service (4 years) including cost-of-living allowance £110 (approx.) per month rising by annual increments to £119 (approx.) per month. Passage paid out and home. Annual local leave and six months' home leave on full basic pay after tour of 4 years. For further particulars apply Messrs. Ayrton, Saunders & Co., Ltd., 34 Hanover St., Liverpool, 1. Preliminary interview can be arranged in Liverpool or Edinburgh. C 3040

WHOLESALE

REPRESENTATIVES required. All areas by paper merchants. Expenses and good commission. Box C 3156.

A LADY surgical fitter required by old-established London firm situated West End. Good salary and permanent position. Knowledge of trusses, belts and hosiery essential. Write Box C 143.

BIOREX LABORATORIES, LTD., 51 Exmouth Street, E.C.1, offer representative salary, commission, expenses, and opportunity of substantial income. Must have established connection and experience in selling to chemists: drugs, galenicals, dressings, plasters, proprietaries and chemists' sundries. Must be car owner. Some Home Counties and London territories vacant. C 3163

CHEMICAL MANUFACTURERS near London require a qualified pharmacist in the packaging division. The engagement is on the manufacture and packaging of ethical products, with opportunity for experiment in production and control methods. Salary according to qualifications and experience with prospects of advancement. Five-day week. Canteen facilities. Apply, giving full details of qualifications and experience to Box C 5036.

COOPER, McDougall & ROBERTSON, LTD., Berkhamsted, Herts, require an experienced sales representative, aged 25-35, for their nationally advertised pet foods, aerosols and household insecticides in the counties of Hereford, Worcester, Warwick and Leicester. Applications are invited from men with proved selling ability and established connections with chemists, ironmongers and pet stores. Salary according to experience and qualifications. Car provided, expenses paid, position pensionable. Reply, giving full details of previous experience and present employment, in confidence, to the Household Sales Manager. C 5046

EVANS MEDICAL SUPPLIES, LTD., have a vacancy for a representative to call on chemists in Somerset and Gloucester areas. Applicants must be under 35 years of age with recent experience of retail pharmacy. Apply, in writing, to the Home Sales Director, Evans Medical Supplies, Ltd., Speke, Liverpool, giving full details of career. C 5052

EXPANSION of the medical Sales Department of Genatosan, Ltd., a member of the Fisons Group, has created posts for medical representatives to cover General Practitioners, Hospital Medical officers, etc., in the following areas: Glasgow, Liverpool, Leeds, Birmingham, Newcastle; the first-mentioned (Glasgow) carries an additional responsibility. These are well-remunerated posts, with good prospects for keen and energetic people, preferably with a pharmaceutical qualification or good background. Full personal details, with summary of attainments and experience, also area preferred, should be addressed to: The Personnel Officer, Genatosan, Ltd., 12 Derby Rd., Loughborough, Leicestershire. Please quote "Ref. S/MED." C 5010

EXPERIENCED medical representative required for London area. Excellent opportunity for keen applicant versed in all ethical pharmaceuticals. Salary, commission and fares payable. Box C 5041.

FIRST-CLASS APPOINTMENT available for representative with connections among retail chemists in South of England. Write, giving details of past experience and remuneration required. Apply Box C 5024.

GENATOSAN, LTD. (a member of the Fisons Group) require a trade representative to cover wholesale and retail chemists in Northern Ireland. This post, which is the result of a promotion, is superannuated and offers excellent prospects to a capable person. Good pharmaceutical background an advantage. Full personal details and summary of attainments and experience should be addressed to: The Personnel Officer, Genatosan, Ltd., 12 Derby Rd., Loughborough, Leicestershire. Please quote "S/TR." C 5011

MACLEANS, LTD., Great West Road, Brentford, Middlesex, have a vacancy in their experimental laboratory for a chemist (B.Sc. and/or A.R.I.C.) for research and development of pharmaceutical and toilet products. Experience in this sphere is less important than a flair for investigational work. Pension and profit-participation schemes. Write, giving fullest details of qualifications, experience and salary required to Personnel Manager. C 5053

GLAXO LABORATORIES, LTD., require in the Biological Assay Section of their Analytical Department at Greenford, Middlesex, an assistant to work mainly on the quality control of antibiotics and their pharmaceutical preparations. Applicants must have a knowledge of bacteriology and actual laboratory experience in some branch of this science, although, not necessarily in biological assay. Salary from £460 according to experience. Pension scheme. Apply Senior Personnel Officer, Glaxo Laboratories, Ltd., Greenford, Middlesex. C 5042

JOHNSON & JOHNSON (Gt. Britain), Ltd. are rapidly extending their hospital division and have vacancies for two sales representatives (1) for Midlands, based on Birmingham, and (2) for Scotland, based on Glasgow, to call on hospitals and public authorities. Experience in interviewing pharmacists, matrons, nursing and professional staff preferred. Remuneration by salary and commission, expenses and car allowances. Contributory pension scheme. Apply Hospital Sales Manager, Johnson & Johnson (Gt. Britain), Ltd., Slough, Bucks. C 5047

MAN REQUIRED for manufacturing laboratory, with experience in the production of galenicals, ointments, powders. Applications should give full details including age, education, and experience. Thornton & Ross, Ltd., Linthwaite Laboratories, Huddersfield. C 3205

MANUFACTURING CHEMISTS in outskirts of London require an assistant in the compounding department. Preferably a young man having had some experience in preparation of galenicals on manufacturing scale, or unqualified pharmacy assistant with dispensing experience. Age 22-25 years. Write, stating experience, age and salary required, Box C 5051.

MEDICAL REPRESENTATIVES required by well-known London pharmaceutical manufacturers for (1) the West of England, to reside in the Bristol area; (2) South Wales, to reside in the Cardiff area; (3) the Midlands, to reside in the Birmingham area, and (4) Lancashire, to reside in the Manchester area. Pharmaceutical background desirable but not essential. Remuneration commensurate with experience. Pension scheme. Write, giving full details to Box No. 464, Spottiswoodes, 52 Bedford Row, W.C.1. C 5057

MEDICAL REPRESENTATIVE, male, preferably experienced, required by well-known company distributing limited number of proprietaries to call on doctors and chemists in Liverpool area. Age 25-35. Resident in area. Able to drive. Superannuation scheme. Please send full particulars and state salary required to Box C 5056.

MEDICAL REPRESENTATIVE with previous experience required immediately for Middlesex County by a well-established, progressive ethical house. The successful applicant will be expected to reside on the territory. Remuneration is by salary with all expenses paid. A company car is provided and a contributory pension scheme is in operation. Applicants are invited to apply in confidence giving full details of past experience. Apply Box C 5032.

REPRESENTATIVE working on a commission basis with established connection retail chemists and pharmacy departments in Kent, Surrey and Sussex, required by English manufacturers of high-quality vacuum flasks already nationally distributed. Existing customers would be handed over. Full particulars lines carried, ground covered and journey time to Box C 5044.

REPRESENTATIVES wanted for most areas by manufacturers to carry popular high-class toilet bags, fancy bags, pouchettes, etc., as a side line on 10 per cent. commission basis. Only those already calling on departmental stores and better-class chemists need apply. Reply Box C 3171.

S.W. LONDON AREA. A well-known ethical house requires the services of a first-class man for medical propaganda work on this territory. Previous experience desirable but not essential. Candidates should, however, have a thorough knowledge of the territory and a good pharmaceutical background. Write in confidence to Box C 5043.

WANTED TO PURCHASE PHARMACEUTICAL MANUFACTURING BUSINESS Producing Proprietary Articles

LARGE CAPITAL AVAILABLE

Write in confidence to: **REGINALD TERRELL**, Managing Director

BUSINESS BROKERS LIMITED, 46 St. James's Place, London, S.W.1

(REGent 4720 and 5418) C9759

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Box Office numbers are intended exclusively for specific answers to particular advertisements and Price Lists, Trade Circulars, Samples and Printed Matter cannot be forwarded.

'UNISEC' from the Single Unit to the Complete Pharmacy

WRITE FOR YOUR COPY OF THE STANDARD REFERENCE OF PHARMACY FITTING

MYERS of OLD ST.
133/5 & 141/7 OLD STREET, LONDON, E.C.I

Situations Open—Continued

REPRESENTATIVE REQUIRED for North of England and Scotland by well-established manufacturers of chemists' sundries, selling branded goods of high repute to wholesalers. Salary, commission and expenses. Full details of experience, age, etc., to Lewis Woolf, Ltd., 144 Oakfield Rd., Birmingham, 29. C 5016

TWO MEDICAL REPRESENTATIVES with pharmaceutical or medical background required by large firm of manufacturing chemists to interview doctors, hospitals and chemists in the Yorkshire and Eastern Counties areas respectively. Residence in the Leeds and Nottingham districts preferable. Cars provided. Salary and expenses. Pension scheme. Apply, giving age and full details of qualifications and experience, and stating salary required. Box C 5060.

THE GEIGY COMPANY, LTD., Trafford Park, Manchester, requires the services of a works chemist (27-35) with B.Sc. or A.R.I.C. and who has had experience of the manufacture of fine organic chemicals. The salary offered will be commensurate with the responsibilities involved and will be assessed according to age, qualifications and experience. Applications, giving full details, should be addressed to the Manager, Fine Chemicals Department, The Geigy Co., Ltd., Tenax Works, Trafford Park. C 3124

W. B. CARTWRIGHT, LTD., Rawdon, Leeds, require pharmacist with practical knowledge of manufacture of galenicals, ointments, etc., for their factory at Rawdon. Five-day week. Contributory pension scheme. Apply General Manager. C 5059

WELL-KNOWN COSMETIC HOUSE requires full-time experienced representative for Central London including the West End. Remuneration by way of salary, expenses and attractive commission terms. Detailed applications showing past experience, age, etc., to Box C 5049.

WHOLESALE (OVERSEAS)

PARKE, DAVIS & CO., LTD., have a vacancy for a young, single pharmacist, as representative, based on Nairobi, to call upon doctors, hospitals and chemists in British East Africa. Appointment is pensionable, offers substantial scope and will be remunerated by salary, bonus and expenses. Comprehensive training will be given in this country, and those interested should write for an application form to the Foreign Sales Manager, Parke, Davis & Co., Ltd., Staines Rd., Hounslow, Middlesex. C 5005

SOUTHERN RHODESIA. Representative: Leading pharmaceutical house invites applications from qualified pharmacists within age group 25-30 to fill two vacancies on the sales force of their new Branch Organisation in Salisbury. Preference will be given to unmarried applicants with previous representative experience. A first-class pharmaceutical background, retail or hospital, is essential. Training will be given before proceeding overseas. Apply, initially, in writing, giving full details of previous experience to Box C 5037.

SITUATIONS WANTED

3/- for 18 words (min.) then 2d. per word.
Box 1/-

RETAIL (HOME)

INDIAN, M.Pharm., formerly assistant works chemist in Bombay, requires position in hospital or retail or manufacturing, preparatory to registration in Great Britain under by-law 24. Apply Box C 3180.

INDIAN graduate, six months' dispensing in London, used to heavy N.H.S. and West End type, requires position full or part-time. Apply Box C 3188.

LADY DISPENSER (Hall cert.), well experienced, requires post. Box C 3219.

LADY DISPENSER, Hall certificate, seeks post in London; either part-time day or full- or part-time evening or night work. Box C 3179.

PART-TIME or moderate hours; permanent or temporary, London and provincial experience. Harries, 3 Hanover Gardens, Kennington. S.E.11. C 3195

LOCUMS SEEKING ENGAGEMENTS

LADY DISPENSER (Apothecaries' Hall), now hooking locums for the season. Would be glad to hear from anyone requiring help. Write fullest particulars. M. S. Kaye, 33 Edinburgh Avenue, Leigh-on-Sea, Essex. C 3220

WHOLESALE

INDIA—PHARMACEUTICALS. Senior British Executive, now general manager of well-known British company dealing in fine and heavy chemicals and in the manufacture and marketing of pharmaceuticals, desires change. Please contact P.O. Box 6097, Bomhay 5. C 3161

REPRESENTATIVE with over 30 years' chemists' experience, Southern and South-western territories, seeks sound agency or full appointment, highly successful record. Box C 3186.

REPRESENTATIVE appointment required with firm of repute, for Birmingham and the Midlands. Good appearance, and many extensive connections developed over many years. Box C 3224.

WELL-KNOWN ex-Government purchasing executive experienced surgical dressings, plasters, hospital textiles, seeks London representation reputable manufacturer for wholesale, export, etc. Box C 3183.

YOUNG SALES EXECUTIVE of proven ability and enterprise, thorough knowledge home market chemist trade and all aspects export, seeks rewarding appointment with first-class concern desiring expansion of sales. Present salary £750 p.a. Box C 3193.

AGENCIES

17/6 for 36 words (min.) then 4d. per word.
Box 2/-

AGENTS required on generous commission basis for well-known and nationally advertised household dyes to call on chemists, stores, co-ops, etc., in various districts of the British Isles. Full particulars, stating area covered, to Box C 3215.

AGENT REQUIRED by well-known toilet soap and perfume house for Northern Ireland. Must have first-class connection with chemists and stores. Fullest details, including age, and whether car owner to Box AC 79280, Samson Clarks, 57-61 Mortimer St., W.1. C 5048

COSMETIC and perfume house of repute require manufacturers' agents for the following territories:—Scotland, Northern Ireland, North and part East Midlands and Central Midlands. Attractive commission terms with every backing and support. Applications should state lines already carried. Box C 5050.

EIRE. Old established London company, manufacturing proprietary medicines and pharmaceutical products, requires well established agent with sales force covering the 26 counties. Write in the first instance to Box C 3197.

AGENCIES WANTED

8/6 for 36 words (min.) then 3d. per word.
Box 2/-

AGENT (qualified) seeks representation in north on commission basis. Sound connection all wholesalers and factors. 25 years' experience in chemicals, sundries, patents, medical, Own car and telephone. Box C 3201.

FIRST-CLASS REPRESENTATIVE, age 32. Sound connection chemists, departmental stores and co-ops. S.W. Lancs area. Will consider agency offer from first-class firms. Nationally advertised and proprietary lines only considered. Box C 3223.

LONDON REPRESENTATION of manufacturing concern required by old-established firm of merchants with offices, staff and storage accommodation. Any lines considered. Box C 3194.

OLD ESTABLISHED city firm open for agency or representation of product(s) principally handled by chemists with whom we have an extensive connection. Particulars to Box C 3196.

BUSINESS OPPORTUNITIES

17/6 for 36 words (min.) then 4d. per word.
Box 2/-

DEVELOPING, PRINTING, ENLARGING. We offer: Strict return of post service. All enlargements in free folders. Kodak materials used throughout. P.D.A. prices. Modern equipment. Daily delivery Gloucester area. Waters Commercial Products, Dept. CD, Niagara Works, Stroud, Glos. C 3191

MANUFACTURING CHEMISTS invite inquiries for the manufacture, packing, etc., of private formulae, preparations, liquids, powders, tablets, ampoules, vials and all sterile preparations. Dispatch facilities available with own printing department. Frank Macawall & Yanatas, Ltd., Willshaw St., London, S.E.14. Tel.: Tideway 3846-8. C 122

TOILET PREPARATIONS. National advertiser with 2,000 open accounts and five travellers wishes negotiate working arrangement with organisation with similar sales force with the object of reducing overheads, improving distribution and increasing turnover to mutual advantage. Write Box 330, Sells, Ltd., Brentenham House, Strand, W.C.2. C 5007

WANTED

17/6 for 36 words (min.) then 4d. per word.
Box 2/-

MANUFACTURERS' surplus stocks or discontinued lines bought for spot cash. No quantity too large. Immediate decisions. Red & White Trading Co., Britain's Biggest Buyers, 37 Dorset St., Baker St., London, W.1. Phone: Welbeck 3304. C 9885

WANTED. Coin-operated personal weighing machine. 35 Westcliffe Rd., Southport, Lancashire. Telephone: Southport 67953. C 5058

WANTED, STOCKS FOR CASH. We are cash buyers of merchandise of every description. Also clearance stocks, discontinued lines, surplus and redundant stocks, bottles, jars, screw caps, cartons, and other packaging materials. In fact, goods of all kinds can be disposed of through us, without delay, on the most favourable terms, and without trouble. Should you have anything for disposal either now, or at any future time, please send us samples, full particulars and price on a cash settlement basis and the matter will have our immediate and careful attention. Reliance Trading Co., 13 New College Parade, Finchley Road, London, N.W.3. C 115

Wanted—Continued

WANTED. Surplus or redundant merchandise, clearance goods of any description or discontinued lines. Cash immediately, no delay. Our representative will be pleased to call or, alternatively, please send samples with particulars, quantity and price. Lawrence Edwards & Co., 6-7 Wellington Close, Ledbury Rd., London, W.11. Telephone: Bayswater 4020.

WANTED: Silverson mixer, model BX de Luxe or larger preferred. A. E. Bevan, Ltd., 20a Hall St., Southport. Telephone: Southport 3433. C 3187

MISCELLANEOUS SALES

17/6 for 36 words (min.) then 4d. per word.
Box 2/-

1½ TONS triple-pressed stearine snow-white crystalline 130-31°. Box C 5006.

ASPIRIN TABLETS. Gr. 5, B.P., in bottles of 25, 50 and 100, and in cartons of 15 tablets at very low prices. Name and address printed at no extra charge. Also in bulk. Please send for quotation and sample to: Tell Products, Ltd., Welbeck Works, 93 Cobbold Rd., London, N.W.10. Tel.: Willesden 6873. C 38

BEST REASONABLE OFFER accepted for part or whole: Two tons caustic soda (flake) in 1 and 3 cwt. drums; 9 lb. vanillin (bush); 2½ cwt. stearic acid, B.P. (Price). Kenton, Ltd., 52 King William St., E.C.4. C 3177

PROPHYLACTICS. First quality transparent and ivory condoms of Continental manufacture at 17/6 per gross. Supplied either long laid, rolled loose or packed in plain envelopes. Please state how required. Terms: C.W.O. or C.O.D., carriage paid. Special terms for large quantities. Satisfaction assured. Julian Gross, 26 Goodge St., London, W.1. C 202

COMPLETE MODERN SHOP fittings and dispensary for sale, would separate items; also good clean stock. Lease, London area. Phone: Elgar 6645. C 3176

FOR SALE: Addis Nylon tooth-brushes, sealed cartons of 500 at £7 per carton, c.o.d. carriage paid home. Selwyn, Ltd., Northwich. C 3184

FOR SALE AT LOW PRICES 5,496 dozen loofahs in various sizes from 3½ in. to 10 in. long. Ready delivery London. Further large quantities available. Box C 5054.

MANUFACTURING SURPLUS clearing lines going cheap, 2 oz. vase jars petroleum jelly, 2/6 doz.; solid brilliantine heavily perfumed in oval tins, 3/- doz.; good quality wax floor or furniture polish in large tins, 4/- doz.; 1 oz. bottles lavender or Cologne, 3/6 doz.; 1 oz. bottles shampoo, 3/- doz.; rouge in nice container, assorted colours, 2/6 doz.; 2 oz. screw neck bottles, 12/6 gross; 4 oz. oval Maclean powder shape jars, 17/6 gross. Usual purchase tax payable. Cash with order. Amblins Sales Co., Ltd., Medina House, Hove, Sussex. C 3206

MODERN CHEMIST SHOP fittings, drug ranges, wallcases with frameless sliding doors, display counters and showcases; all styles of window fittings and display stands. D. Matthews & Son, Ltd., Complete Chemist Shop Fitters and Shop Front Builders, 14-16 Manchester St., Liverpool. C 141

PACKAGING. Cardboard carton, folding and rigid boxes and tubes, letterpress and litho. Packings for special purposes. Johns, Son & Watts, Ltd., 2-4 Epworth St., London, E.C.2. Telephone: Monarch 7408. C 1231

RECONDITIONED EX-ARMY HUTS, and manufactured buildings. Timber, asbestos, Nissen-type, hall type, etc. All sizes and prices. Write, call or telephone. Universal Supplies (Belvedere), Ltd., Dept. 90, Crabtree Manor-way, Belvedere, Kent. Tel.: Erith 2948. C 138

SACCHARIN TABLETS. Government standard strength—packets of 100. 1-gross lots, 49s. gross, 5-gross lots 48s. 6d. gross. Special prices for larger quantities. Registered post by return. Agnew & Simpson, Ltd., 81-87 Oxford St., Glasgow, C.5. C 9991

SURPLUS STOCK for sale: Agar Agar, 4 cwt. Powder, ½ cwt. Strip. Samples available. Apply Box C 3198.

TOOTH-BRUSHES. original Kent Nylon, 60 gross, polished bristles, each brush fully wrapped in cellophane, at 72s. per gross, to clear. Rapmark Products, Ltd., 89 Packington St., London, N.1. Telephone: Canonbury 4611. C 3189

SALES BY AUCTION

18/- per half-inch (min.) and pro rata.
Box 2/-

APPLEBY—NORTH WESTMORLAND
For Sale as Going Concern
Chemist's Shop with Dwelling House over
NO. 28 BOROUGHGATE

good position in market town. Accommodation: Shop; Dispensary; Lounge; Kitchen; 4 Bed-rooms; Bath-room (h. and c.); Storage Cellars. Electric, Gas, Main Water. Stock at Valuation, N.H.I. Prescriptions approx. 1,000 per annum. Auction February 27 (if not previously sold privately). Further particulars from and offers to Penrith Farmers' & Kidd's Auction Co., Ltd., St. Andrew's Churchyard, Penrith, C 5039

MISCELLANEOUS

PHOTOGRAPHY. Are you introducing new lines, installing new plant or processes? Have it photographed in monochrome or colour for publicity, technical journals, etc., by experts. Bignell Chemicals, Ltd., 51 King's Court South, S.W.3. Flaxman 9277. C 145

THE GUILD OF DISPENSERS. Unregistered dispensers are urged to join their own active organisation which aims at statutory recognition. Membership 2s. 6d. only. Details: Secretary, Wm. Solomon, 41 Connaught Sq., Marble Arch, W.2. C 9945

The C and D WEEKLY LIST OF PRICE CHANGES

A = Advanced; R = Reduced;

I.R.P. = Inclusive Retail Price; * = Tax 33½ per cent.; † = Tax 100 per cent.

BIOREX LABORATORIES, LTD.

The company's penicillin preparations have been reduced in price (see C. & D. Coloured Supplement, January 31, p. 56).

CUXSON, GERRARD & CO., LTD.

Chloramphenicol solution

	Each
10 per cent., dropper bottle	5-c.c. 6 9 R
	10-c.c. 12 6 R
	25-c.c. 23 0 R
	50-c.c. 44 0 R
injection bottles	100-c.c. 84 0 R

THOMAS KERFOOT & CO., LTD.

Prices of the company's penicillin preparations have been revised (C. & D. Coloured Supplement, January 31, p. 56).

MENLEY & JAMES, LTD. (from February 1)

	Doz.	I.R.P.
Eskacillin 50, 2-fl.-oz.	87 9 9 R	
100, 2-fl.-oz.	130 6 14 6 R	

PARKE, DAVIS & CO., LTD. (from February 2)

	Chloromycetin capsules	0.25 gm.	12	27 0 R
		100	215 0 R	
		1,000	2,077 3 R	
cream, 1 per cent, tube			7 9	R
ophthalmic, 25-mgm. vial			7 3 R	
palmitate suspension,				
60-c.c.			20 3 R	
pure			30 6 R	
25-gm.			201 0 R	
topical			10 6 R	
100-c.c.			126 6 R	

RECKITT & COLMAN, LTD. (from February 9)

	Each
Dettol	5-gall. 76 3 R
Re-charge price to doctors, hospitals, etc:	86s. 3d.

2-gall. 33 0 R
Re-charge price to doctors, hospitals, etc.: 36s.

Disprin dispensing pack, 300 7 6 R

Solprin dispensing pack, 300 7 6 R

Rebates on stocks will be made by credit note to wholesalers through the company's representatives.

JEYES SANITARY COMPOUNDS, LTD. Each

Jeyes' toilet fitting plus two packets of Jeyes' toilet paper 4 8‡ 7 6 R

†Purchase tax is 1s. 8d. extra.

BRITISH PATENT PERFORATED PAPER CO., LTD. (from February 16)

Bronco rolls	1 2 R
packets	1 0 R
British No. 3 rolls	1 0 R
Sanico rolls	11 R
Mericlo rolls	10 R
Carpensis rolls	8 R
Lavato packets	11 R

SURGICAL DRESSINGS MANUFACTURERS' ASSOCIATION [corrected note] W.O.W. bandages, B.P.C., individually wrapped Doz.

4-in. x 6 yd. 10 11 R

6-in. x 6 yd. 16 1 R

NEW PRODUCTS AND PACKS

BENGUE & CO., LTD.

Bentonyl pills* 50 39 9 5 6

dispensing pack 250 18 8

VENTIN & ODONE MEDICINAL PRODUCTS, LTD.

Venese anti-gastric mixture*

REDANOIS, LTD.

Fli-Flap shampoo* 32 0 4 11

48 0 7 4

ROCHE PRODUCTS, LTD.

Gantrisin syrup, 100-c.c. 10 6

JAMES WOOLLEY, SONS & CO., LTD.

Amphetamine 10-fl.-oz. 4 0

20-fl.-oz. 7 6

80-fl.-oz. 24 0

Available as dispensing pack or taxed at 33½ per cent.

JOHN WYETH & BRO., LTD.

Beplete tablets 250 22 6

P.A.T.A. PROTECTED LIST

Part 1

WM. R. WARNER & CO., LTD. (Addition)

Tyrosolven 20 20 0 2 6

dispensing pack Each

Agarol dispensing pack, 250 16 8

80-oz. 19 6

Discontinued:— Agarol dispensing pack of six 14-oz. bottles.

WIGGLESWORTH, LTD. (Addition)

Opas powder,* small size 6 9 1 0

1 doz. 6 3

Part 2

CHIESEBROUGH MANUFACTURING CO., LTD. (Addition)

Vaseline liquid shampoo Gross

in sachet* 40 6 6

In Channel Islands:— 40 6 5

R. J. REUTER CO., LTD. (Agents:—SCOTT & BOWNE, LTD.)

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